ADMINISTRATIVE RECORD

BCF OIL REFINING SITE

BROOKLYN, KINGS COUNTY, NY

Prepared for:

U. S. EPA Region II
Removal Action Branch
Edison, New Jersey 08837

Prepared by:

US EPA Region II Removal Support Team
Roy F. Weston, Inc
Federal Programs Division
Edison, New Jersey 08837

DCN #: RST-02-F-00001
TDD #: 02-0008-0002
EPA Contract No.: 68-W-00-0113

September 2000

FACT SHEET

Administrative Records in Local Repositories

The "Administrative Record" is the collection of documents which form the basis for the selection of a response action at a Superfund site. Under Section 113(k) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), the EPA is required to establish an Administrative Record available at or near the site.

The Administrative Record file must be reasonably available for public review during normal business hours. The record file should be treated as a non-circulating reference document. This will allow the public greater access to the volumes and also minimize the risk of loss or damage. Individuals may photocopy any documents contained in the record file, according to the photocopying procedures at the local repository.

The documents in the Administrative Record file may become damaged or lost during use. If this occurs, the local repository manager should contact the EPA Regional Office for replacements. Periodically, the EPA may send supplemental volumes and indexes directly to the local repository. These supplements should be placed with the initial record file.

The Administrative Record file will be maintained at the local repository until further notice. Questions regarding the maintenance of the record file should be directed to the EPA Regional Office.

The Agency welcomes comments at any time on documents contained in the Administrative Record file. Please send any such comments to Mr. Thomas P. Budroe, Removal Action Branch, U.S. EPA Region II, Woodbridge Avenue, Edison, NJ 08837.

For further information on the Administrative Record file, contact Thomas P. Budroe, On-Scene Coordinator, U.S. EPA Region II, at (732) 906-6191.

<u>**BCF OIL REFINING SITE**</u>

ADMINISTRATIVE RECORD FILE

INDEX OF DOCUMENTS

The following is an example of an entry in the index of documents, along with an explanation of each line:

Document #:	Site Code (three letters of site name)-Section, First Page-Section - Last Page **EXAMPLE (BCF 1.1001 - 1.1002)**
Title:	Abstract of Document Contents
Category:	Document Category/Section of Administrative Record File
Author:	Writer and Affiliation
Recipient:	Addressee or Public and Affiliation, if applicable
Date:	When Document was Created or Transmitted

Note: Items in the Administrative Record are for public access, and should be removed from the file only for copying. The cost of reproduction of the documents in the file is the responsibility of the person requesting the copy.

BCF OIL REFINING SITE

ADMINISTRATIVE RECORD FILE

INDEX OF DOCUMENTS

Document #: BCF 1.2 001 - BCF 1.2 007
Title: Memorandum - BCF Oil Refining, Inc. - Request For EPA Removal Action
Category: Site Identification
Author: Richard Gardineer, Regional Engineer, New York State Department of Environmental Conservation, Division of Environmental Remediation, Region 2
Recipient: Michael O'Toole, Director, Division of Environmental Remediation, New York State Department of Environmental Conservation
Date: March 22, 2000

Document #: BCF 1.2 008 - BCF 1.2 009
Title: BCF Oil Refining, Inc., Brooklyn, NY, Request for Emergency Removal
Category: Site Identification
Author: Michael O'Toole, Director, Division of Environmental Remediation, New York State Department of Environmental Conservation
Recipient: Richard Caspe, Director, Emergency & Remedial Response Division, United States Environmental Protection Agency, Region II, New York, New York
Date: March 24, 2000

Document #: BCF 1.2 010 - BCF 1.2 019
Title: Expedited Removal Assessment Criteria
Category: Site Identification
Author: Neil Norrell, Margaret Chong, John Witkowski, U.S. Environmental Protection Agency, Region II, Edison, New Jersey
Recipient: File
Date: March 31, 2000

Document #: BCF 1.2 020 - BCF 1.2 020
Title: BCF Oil Refining, Inc., Brooklyn, NY, Response to NYSDEC Request for Emergency Removal
Category: Site Identification
Author: Richard Caspe, Director, Emergency & Remedial Response Division, United States Environmental Protection Agency, Region II, New York, New York
Recipient: Michael O'Toole, Director, Division of Environmental Remediation, New York State Department of Environmental Conservation
Date: April 27, 2000

Document #: BCF 1.4 001 - BCF 1.4 186
Title: Analysis of Contaminated Oil, B.C.F. Oil Refinery, Brooklyn, New York
Category: Site Investigation
Author: Rust Environment and Infrastructure, Albany, NY
Recipient: B.C.F. Oil Refining, Inc., Brooklyn, NY
Date: August 1996

Document #: BCF 1.4 187 - BCF 1.4 261
Title: Preliminary Subsurface Investigation, B.C.F. Oil Refining Facility
Category: Site Investigation
Author: Rust Environment and Infrastructure, Albany, NY
Recipient: B.C.F. Oil Refining, Inc., Brooklyn, NY
Date: June 1998

Document #: BCF 1.4 262 - BCF 1.4 286
Title: Project Scoping Plan, Restoration of B.C.F. Oil Refining Facility
Category: Site Investigation
Author: Rust Environment and Infrastructure, Albany, NY
Recipient: B.C.F. Oil Refining, Inc., Brooklyn, NY
Date: August 1998

Document #: BCF 2.5 001 - BCF 2.5 023
Title: Action Memorandum, Request for a Removal Action, Ceiling Increase and Exemption from the $2 Million and 12-Month Statutory Limits at the BCF Oil Refining Site, Brooklyn, New York
Category: Removal Response
Author: Thomas P. Budroe, On-Scene Coordinator, Removal Action Branch, United States Environmental Protection Agency, Region II
Recipient: Jeanne M. Fox, Regional Administrator, United States Environmental Protection Agency, Region II
Date: July 11, 2000

Document #: BCF 7.7 001 - BCF 7.7 002
Title: B.C.F. Oil Refining, Inc., Brooklyn, NY, Site Security
Category: Enforcement
Author: Julian W. Friedman, Law Offices of Stillman & Friedman
Recipient: Charles E. Sullivan, Jr., New York State Department of Environmental Conservation, Division of Environmental Enforcement, Albany, NY
Date: March 14, 2000

Document #: BCF 7.7 003 - BCF 7.7 003
Title: B.C.F. Oil Refining, Inc., Response to Friedman Letter of March 14, 2000
Category: Enforcement
Author: Charles E. Sullivan, Director, New York State Department of Environmental Conservation, Division of Environmental Enforcement
Recipient: Julian W. Friedman, Law Offices of Stillman & Friedman
Date: March 24, 2000

Document #: BCF 7.7 004 - BCF 7.7 005
Title: B.C.F. Oil Refining, Inc. Site, Continued Site Security
Category: Enforcement
Author: Paul F. Simon, Chief, New York/Caribbean Superfund Branch, US Environmental Protection Agency, Region II, Office of Regional Counsel, NY, NY
Recipient: Julian W. Friedman, Law Offices of Stillman & Friedman
Date: March 29, 2000

Document #: BCF 7.7 006 - BCF 7.7 021
Title: B.C.F. Oil Refining, Inc. Site, Brooklyn, NY, Notice of Potential Liability
Category: Enforcement
Author: Richard L. Caspe, Director, Emergency and Remedial Response Division, U. S. Environmental Protection Agency, Region II, New York, New York
Recipient: Mr. Salvatore Cortese, President, BCF Oil Refining, Inc., Hancock, New York
Date: April 28, 2000

Document #: BCF 7.7 022 - BCF 7.7 024
Title: B.C.F. Oil Refining, Inc., Brooklyn, NY, Site Security
Category: Enforcement
Author: Julian W. Friedman, Law Offices of Stillman & Friedman
Recipient: Paul F. Simon, Chief, New York/Caribbean Superfund Branch, US Environmental Protection Agency, Region II, Office of Regional Counsel, NY, NY
Date: May 19, 2000

Document #: BCF 7.7 025 - BCF 7.7 043
Title: B.C.F. Oil Refining, Inc. Site, Brooklyn, NY, Notice of Potential Liability
Category: Enforcement
Author: Richard L. Caspe, Director, Emergency and Remedial Response Division, U. S. Environmental Protection Agency, Region II, New York, New York
Recipient: Several
Date: May 23, 2000

Document #: BCF 10.3 001
Title: Notice of Public Availability
Category: Public Participation
Author: United States Environmental Protection Agency, Region II
Recipient: General Public
Date: N/A

Document #: BCF 11.2 001 - BCF 11.2 002
Title: EPA Regional Guidance Documents
Category: Technical Source and Guidance Documents
Author: United States Environmental Protection Agency
Recipient: N/A
Date: N/A

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 2
47-40 21ST Street, Long Island City, NY 1101-5407
Phone: (718) 482-4995 FAX: (718) 482-6358

John P. Cahill
Commissioner

MEMORANDUM

To:	Michael O'Toole, Director, Division of Environmental Remediation
From:	Richard Gardineer, Regional Engineer
Subject:	BCF Oil Refining, Inc. - Request For EPA Emergency Removal Action
Date:	March 22, 2000

This Memorandum is to provide information for a request to the USEPA for an emergency removal action for the BCF Oil Refining, Inc. Facility in Brooklyn, New York.

Summary of Necessity For Emergency Removal:

BCF Oil Refining, Inc. ("BCF"), 360 Maspeth Avenue, is a waste oil reprocessing facility, whose above and below ground tanks contain a total of over one half of a million gallons of PCB contaminated waste oil. In addition, other ancillary wastes are stored on this site in 55 gallon drums, a tanker truck and other containers. The site is situated on the banks of the English Kills and the integrity of the tanks and secondary containment is questionable. Staff believe that there is likelihood that in the event that one or more of the above ground tanks fail, the secondary containment would not contain the spilled oil, thus discharging hazardous waste into the English Kills. In addition the underground storage tanks may also be leaking and flowing into the English Kills. Recently, the attorney for BCF has advised the Department in writing (See Attachment A.) that his clients are terminating their security of the site effective close of business, March 17. In this letter, they request that the Department "take over the management of the facility in a safe and orderly manner." This letter implies that BCF Oil Refining, Inc. is no longer willing to be responsible for the maintenance, nor cleanup of the site. The combination of the potential failure of the hazardous waste storage / containment system with the abdication of the site owner / operator of their responsibility to monitor and maintain the site has created the necessity for the immediate removal of this waste.

Removal / Remedial Actions Needed:

Our review of the site suggests that it be addressed in four steps or phases, as follows:

1) The immediate response should commence with the implementation of site security. Other actions in this step or phase must address the replacement / maintenance of the boom along the English Kill and the removal of on-site wastes including:

a) approximately 550,000 gallons of PCB contaminated wastes in the form of oil, water and solids that are contained in 4 Above Ground Storage Tanks (ASTs) and 12 Underground Storage tanks (USTs).

b) 32 each - 55 gallon drums (some are in 85 gallon drum overpacks),
c) 1 each - 6,000 gallon tanker, and
d) 1 each - 20 tons of solid waste in a rolloff container.

2) After the emergency removal action, next step should include the cleaning and removal of the ASTs, USTs, and connecting pipes, the tearing down of a structure known as the screen house, and the investigation / removal of floating free product plumes on the groundwater both in the font of the building along Maspeth Avenue and along the western property line.

3) The third step or phase would be to conduct a Phase II Preliminary Site Assessment to determine the type and extent of contamination of the soil, groundwater, and surface water. Dependent upon the results, a Remedial Investigation / Feasibility Study may be required.

4) The final step would be to design, implement, and maintain a remedial program for the site.

Site History:

The 1.85 acre site on 360 Maspeth Avenue is bounded by the Brooklyn Union Gas-Greenpoint Energy Facility to the North, a gasoline and fuel oil distribution terminal to the East, the English Kills (a part of Newtown Creek) to the South and an industrial supply facility to the West. The soil is characterized by construction debris filling materials on an embankment on shore. Groundwater elevation is between 2-10 feet below the ground level and strongly influenced by the tidal effects.

The site has had at least 15 years of continuous petroleum contamination. From 1980 to 1995 it was used as a waste oil processing facility (with no permit for 11 years, for 4 years with a DEC permit). In 1994 the facility closed after PCB contamination was discovered in all but two of the tanks. At present, BCF continues to store the oil with high levels of PCBs in very old tanks of uncertain tightness and integrity. The concentrations of PCBs in the tanks range from several tanks with less than 50ppm to tanks with 460pm and 630 ppm. Taken together, these facts underscore the desperate need for immediate cleanup.

DEC refused to renew BCF's MOSF license by letter dated April 25, 1995 based upon the contamination at the facility. In that letter DEC references BCF's claim that it did not have the funds to pay for the clean-up. After several years, during which BCF lost litigation that it commenced to prove that Con Edison was responsible for the PCBs, nothing has been done.

BCF had proposed to finance the clean-up of the facility by allowing it to restart the operation of the site, using the income to finance the removal of the wastes and the upgrade of the site. Various reports regarding this option were submitted in early 1999. Negotiations continued through the early summer, when issues arose over the TSCA "contact rule", regarding the classification of the wastes for disposal (BCF wanted the wastes classified based on their actual concentration rather than all wastes being considered as PCB based on contact with the highly concentrated PCB waste that went through the tanks.), and whether the underground tanks could be closed in place and new tanks constructed on top of them. On December 9, 1999, DEC advised BCF in writing the types of permit approval was needed, including a SEQR review, and the removal, investigative and remedial activities that must occur, before the project could start up again.

During a December 13 meeting, BCF advised the Department that they were no longer interested in operating the site and only wanted to remove all on-site wastes, investigate and clean up the site, before selling the site. Subsequently, a consent order was being negotiated to address all of these activities, including a release when all work was satisfactorily completed. A work plan addressing closure activities was received on or about December 31, 1999. Preliminary comments on the work plan were given in a January 13, 200 telephone conference and negotiations regarding the work plan continued in four ensuing telephone conversations. A surety estimate was transmitted to the Department on February 18, 2000 and legal / technical discussions continued about the surety in late February / early March. A March 14, 2000 letter was sent to BCF's consultant formally submitting the Department's comments that had been previously transmitted in early January, confirming the changes to the site investigation that had been agreed to between the consultant and the Department in telephone conversations in January and February, and responding to the surety proposed by BCF. In early March, BCF's consultant did not respond to the Department's telephone calls and e-mail.

<u>Determining Factors For Emergency Removal:</u>

Staff's inspection of the site revealed physical conditions which suggest that there is an imminent hazard that one or more of the tanks will fail and the PCB contaminated waste oil will be released into the environment including.

1. <u>Tank integrity</u>. The tanks at the facility range in age from those installed in the 1930s to several installed in the 1960s and 1970s. Note, none of the tanks have been tightness tested or otherwise tested for integrity as required by Parts 373, 374 and 614.

There are approximately 12 underground tanks of varying age, some of which were installed in the 1930's. Of these we do not know whether any are structurally sound. Based on past comments made by the facility's operators and consultants there was speculation that the tanks were encased either fully or partly in concrete bases. This presumption could not be substantiated by the facility operators or their consultants. Un-lined tanks of this age and with the absence of maintenance and monitoring present at this site present a high risk that they will leak or otherwise release their contents into the environment. Alternatively, even if the tanks are encased in cement, such encasement fails and oil can leak from the tanks through its fissures.

In addition, there are four (4) above-ground or vertical tanks. These tanks contain the largest volumes of the contaminated oil with some of the higher concentrations of PCBs. Staff's recent inspection revealed extensive rust at several locations of all of the above-ground tanks. The rust indicates a certain structural risk which will only get worse because the tanks are out of doors and have no protection from the elements.

The risk of a release from both underground and above-ground tanks continues to rise with each year that passes without testing for tightness and leak prevention. Likewise, the continued neglect can only lead to a degradation of the tanks' structural integrity. The tanks and connecting pipes have not been painted, cleaned or otherwise maintained since the plant closed. Since all of the tanks are still connected with each other, a failure in only one of these tanks could lead to the release of some of the contaminated oil from one or more of the nearby tanks.

2. Secondary containment: The integrity of the secondary containment would not be of such concern if the tanks themselves were in acceptable condition. Unfortunately, this is not the case. Staff's visit to the site produced photographs which show that the base of each of the vertical tanks to be rusting thus creating the greatest risk of release at the facility. Please note that Part 373 regulations mandate that the Secondary Containment System (SCS) for hazardous waste storage tanks must meet certain strict regulatory requirements. Staff inspection of the existing SCS revealed that the facility is not meeting those requirements. The SCS is made of concrete which is cracked throughout. In other words, the existing SCS at BCF is deemed inadequate to contain any releases from the tanks.

3. Soil & groundwater analysis: There has been no thorough site investigation regarding soil and water contamination. However, to date some soil and water tests have been conducted, including some in 1998, and these do not indicate that there has been PCB contamination of the soil or water (surface or ground). Further testing is needed. Areas with the highest potential of PCB contamination (e.g.: shoreline, and areas surrounding the tanks) were not tested.

4. Potential impacts from release: There are so many resources in the immediate area of this facility that it might be easier to identify what resources will not be impacted. The facility sits upon a sole-source aquifer and in soils that are already contaminated with "clean" petroleum. It is adjacent to Newtown Creek and the English Kills, both of which empty into the harbor and ultimately into the Atlantic Ocean. The fish, wildlife, plant and water impacts will be enormous and most likely impossible to remediate.

Applicable Regulations:

The facility is subject to a broad range of regulations. These require that the contaminated oil at the facility be treated and managed as hazardous waste. This summary views the site as a hazardous waste site.

1. Hazardous Waste Management, Identification of Hazardous Wastes, Standards for Generators and Hazardous Waste Management Facilities Parts 370 through 374: Mixtures of used oil and hazardous wastes shall be regulated as hazardous wastes, 6 NYCRR §374-2.2(a)(2)(i)(a). Further, §374-2.2(a)(2)(i)(c) specifically provides that used oil containing over 50 ppb of PCBs is presumed to be a hazardous waste. Hazardous waste must be disposed of in accordance with 6 NYCRR Parts 370 though 374-1 and 376. All tanks containing RCRA wastes are subject to the closure requirements of Part 373.

2. Inactive Hazardous Waste Disposal Sites Part 375 and 375-1: As BCF has been aware of the contamination of the site and has continued to claim that it is unable to pay for the clean-up, the Department may determine that it is abandoned and subject to the State Superfund provisions of the regulations.

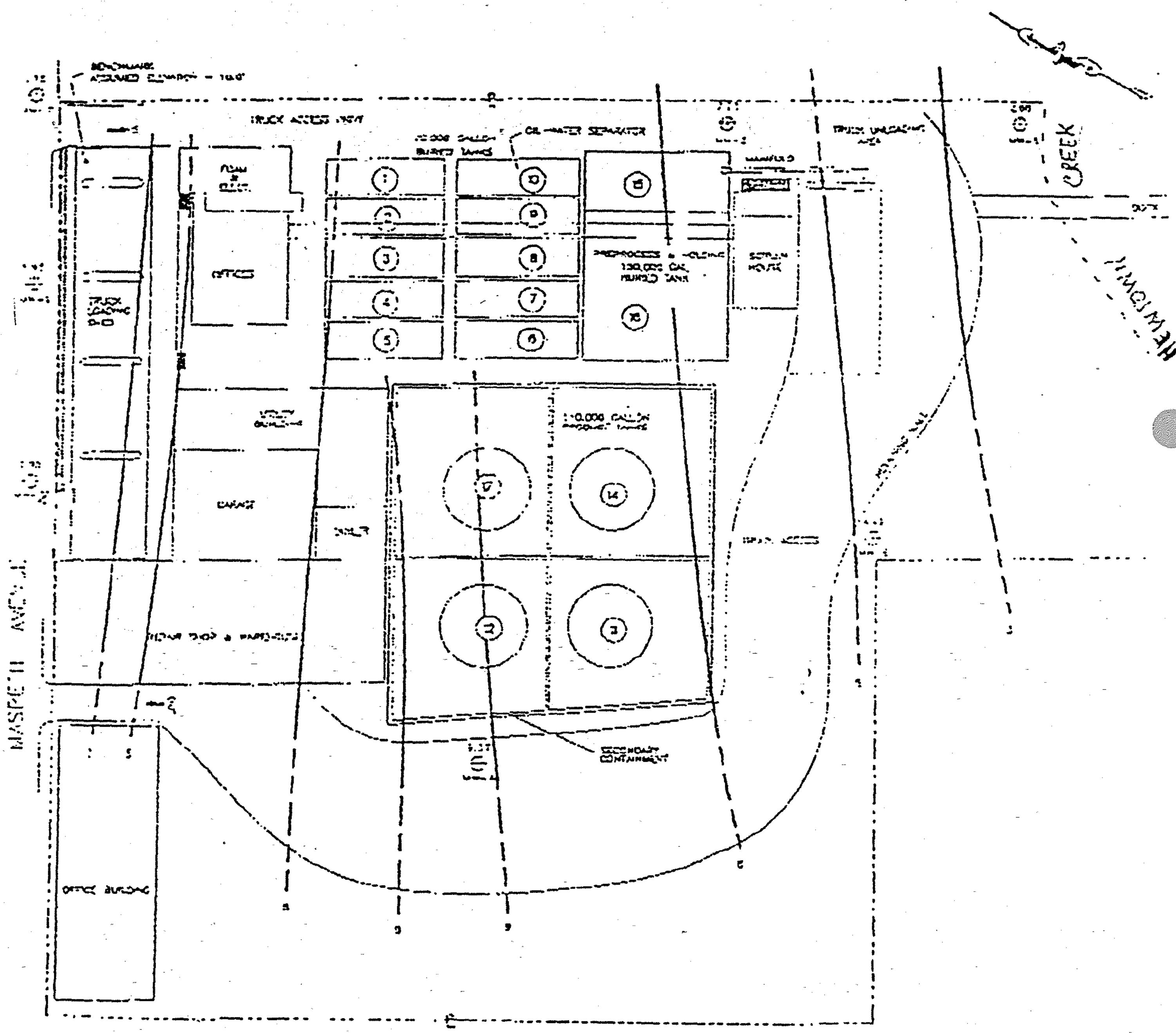
3 Petroleum Storage, Handling and Standards for New and Modified Facilities - Parts 612, 613 and 614: The facility does not have a valid Major Onshore Storage Facility (MOSF) license nor has it complied with the applicable regulations. These regulations are designed to insure the integrity of the containers and to prevent spills of oil, clean or otherwise, into the environment.

In closing, please note that a copy of the site map has been included as Attachment B. Attachment C lists each tank with the estimated amounts of waste types (oil, solids, water) with PCB concentrations. If you have any questions, please contact me immediately.

cc: Mary Ellen Kris
Tom Kunkel
Charles Sullivan
Dick Keolling

ATTACHMENT B

B.C.F. OIL REFINING FACILITY



ATTACHMENT C

VOLUME AND PCB CONCENTRATION BY TANK

B.C.F. OIL REFINERY
BROOKLYN, NEW YORK

TANK	TYPE	MAX CAPACITY (gallons)	VOLUME CONTENTS (gallons)	VOLUME SOLIDS (gallons)	VOLUME WATER (gallons)	VOLUME OIL (gallons)	PCB 8/3/94 ppm	CONC 4/95 ppm[1]
1	UST	20,000	17,313	0	16,813	500	10	7
2	UST	20,000	19,613	0	19,413	200	120	99
3	UST	20,000	16,168	8,987	0	7,181	29	42
4	UST	20,000	13,642	9,212	0	4,430	2	13
5	UST	20,000	12,450	0	0	12,450	130	116
6	UST	20,000	18,073	13,384	0	4,689	31	29
7	UST	20,000	17,678	8,080	0	9,598	48	30
8	UST	20,000	19,599	14,976	0	4,623	9	3
9	UST	20,000	14,807	10,389	0	4,418	2	0
10	UST	20,000	0	0	0	100	6	0
11	VERT	110,000	81,217	6,000	0	75,217	630	294
12	VERT	110,000	78,324	6,000	0	72,324	150	106
14	VERT	110,000	70,133	6,000	0	64,133	460	198
15	UST	35,000	31,171	26,500	0	4,671	1	0
16	UST	150,000	86,330	86,330	0	0	8	4
17	VERT	110,000	55,816	6,000	0	49,816	10	7
		825,000	552,334	201,858	36,226	314,350		

[1]The April 1995 series of tests had a questionable sampling methodology.

New York State Department of Environmental Conservation
Division of Environmental Remediation, Room 260B
50 Wolf Road, Albany, New York 12233-7010
Phone: (518) 457-5861 • **FAX:** (518) 485-8404
Website: www.dec.state.ny.us

Environmental Conservation 30 YEARS
John P. Cahill
Commissioner

MAR 24 2000

U.S. EPA, REGION II
EMER. & REM. RES. DIV.
2000 MAR 29 PM 2:28
DIRECTOR'S OFFICE

Mr. Richard Caspe
Director
Emergency & Remedial Response Division
United States Environmental Protection Agency
Region II
290 Broadway
New York, New York 10007-1866

Dear Mr. Caspe:

Re: BCF Oil Refining, Inc.
Brooklyn, New York
Request for Emergency Removal

The New York State Department of Environmental Conservation (NYSDEC) hereby requests the United States Environmental Protection Agency (USEPA) to perform an appropriate CERCLA/SARA authorized emergency response action at the BCF Oil Refining, Inc., 360 Maspeth Avenue site.

The BCF Oil Refining, Inc. (BCF) site is a waste oil reprocessing facility, whose above and below ground tanks contain a total of over one-half of a million gallons of PCB contaminated waste oil. In addition, other ancillary wastes are stored on this site in 55-gallon drums, a tanker truck and other containers. The site is situated on the banks of the English Kills and the integrity of the tanks and secondary containment is questionable. Staff believe that there is likelihood that in the event that one or more of the above ground tanks fail the secondary containment would not contain the spilled oil, thus discharging hazardous waste into the English Kills. In addition, the underground storage tanks may also be leaking and flowing into the English Kills.

Recently, the attorney for BCF has advised the NYSDEC that his clients are terminating their security of the site effective as soon as USEPA makes response. Thus BCF appears no longer willing to be responsible for the maintenance or cleanup of the site. The combination of the potential failure of the hazardous waste storage/containment system with the abdication of the site owner/operator of their responsibility to monitor and maintain the site represents a potential threat to the environment. The immediate concern is for site security.

NEW YORK STATE CENSUS 2000
BE PART OF THE COUNT
¡SEA PARTE DE LA CUENTA!

I have enclosed for your information a March 22, 2000 internal memorandum prepared by Richard Gardineer, New York City Regional Office, regarding conditions at the BCF site.

Julian W. Friedman, Esq., representing BCF, should be contacted in order to gain access to the site. Mr. Friedman's firm is Stillman and Friedman, 425 Park Avenue, New York, New York 10022, and his telephone number is (212) 223-0200. He has stated to DEC representatives that he will turn over the keys to the USEPA officer who contacts him and makes arrangements to receive them.

If you have any questions, please contact Mr. Richard Gardineer at (718) 482-4995.

Sincerely,

Michael J. O'Toole, Jr.
Director
Division of Environmental Remediation

Enclosure

cc: B. Sprague, USEPA, Region II, Edison, NJ
R. Salkie, USEPA, Region II, Edison, NJ

US Environmental Protection Agency
Region II
EXPEDITED REMOVAL ASSESSMENT CRITERIA
Revised:11/22/99

SITE NAME	BCF Oil Refining Inc.		
Date of Report	3/31/00	***Removal Eligible (yes/no)***	YES
SITE ID No.	PU	***CERCLIS No.***	NYD068273044
		RCRIS No.	NYD068273044

Location:{street, block, lot, city, county, state, zip code, Longitude, Latitude}	360 Maspeth Avenue Block 2927, Lot 110 Brooklyn, New York		
Mailing Address	As Above		
Abandoned (date)	Ceased Operations 1994		
EPA Investigators (Name & Phone #)	Margaret Chong, RPB Neil Norrell, RPB John Witkowski, RAB	***Date of Investigation***	3/29/00
State Investigators (Name & Phone #)	Richard Gardineer, NYSDEC 718-482-4995 Anthony Sigona, NYSDEC	***Date of State Response***	
State Case No.		***NRC Case No.***	N/A
ERNS Case No.	N/A		
State Referring Agency & State Referral date:	New York State Department of Environmental Conservation Referral Date: 3/24/00		
Contact for Access to Property (facility, state, local) (phone #)	Julian W. Friedman, Attorney (BCF) 212-223-0200 Richard Gardineer, NYSDEC 718-482-4995		
Directions to site (narrative) (Enclose copy of map at end of report)	Rt. 440 East to I 278 East across the Verrazano Narrows Bridge Continue on I 278 (BQE) to exit 33 (McGuiness/Humbolt St) Make right onto Humbolt to Maspeth Avenue Left onto Maspeth, site is on Right across from Brooklyn Union Gas		
Access Agreement (Verbal, Written, None, Any problems gaining access? If so, was an attorney assigned for the site? EPA Attorney's name & phone number)	Verbal access from RP attorney		

A. Site History (*Short Narrative describing the origination of the site*)

BCF Oil Refining Inc. operated as a waste oil recycling facility from 1980 to 1995. Prior to that time the facility was operated by the Chevron Corp. The facility consists of an office/lab building, oil distribution racks, a shaker house, 4 above ground storage tanks, 12 below ground storage tanks, approximately 60 drums, 2 tank trucks and 2 oil/water separators. In 1994 PCB contamination was discovered in all of the tanks except for 2 of the below ground tanks. Operations at the facility ceased at that time and the RP initiated negotiations with NYSDEC to perform clean-up activities. The RP was also in the process of suing the suspected source of the PCB contamination. In March 2000, negotiations between the RP and NYSDEC broke down when no agreement could be reached regarding disposal of the contaminated oil, sludge and solids.

B. Site Characteristics

1. Physical Location

Type of Site (Industrial, Commercial, residential etc.)	Industrial
Current Operations	None
Past Operations	Waste Oil Reclamation, former oil terminal
Nature of Neighborhood (industrial, commercial, rural, suburban. Describe the pedestrian and vehicular traffic, is it a highway, is the area deserted etc.)	Industrial area Nearest residence approximately ½ mile WSW Greenpoint Hospital approximately 3/4 mile WSW Area is heavily trafficked by commercial vehicles

2. Physical Characteristics

Size of Property	1.85 Acres	***Number of Buildings***	4
Size of Bldgs, number of floors, basement	Office/Lab building, Boiler House, Offices, Shaker House		
Building Drains (describe any evidence of potential discharge from the building and direction of flow, e.g sanitary sewer, are drain outfalls directed to a stream or other sensitive area, etc.)	Standing water from rain noted at front of facility No drains visible on facility Potential discharges to Maspeth Avenue and English Kills The USCG shut down the primary oil/water separator on site NYSDEC currently operates the secondary oil/water separators for storm water run-off. Discharge is directly to English Kills		

Building Construction (Roof: Wood, metal Walls: Masonry, wood Floor: Concrete, wood)	Cinder block with wood roof
Fire Protection systems (indicate if operational)	None noted
System automatic Yes/No	Unknown
Other Physical Hazards (stability of the terrain, stability of stacked material)	Ground level and overhead piping walkways
Space availability for vehicles trailers, staging of drums, equipment, etc.	Limited space available on and in front of facility

3. Site Conditions

Structural Integrity of Building/Structures (e.g. holes in the roof, past fires, evidence of past damage, water damage, obstacles to site entry)	All structures on-site appear to be sound
Evidence of Public Entry (graffiti, vagrants, dumping etc.)	None, owner provides security 24 hours per day/7 days per week
Housekeeping (Evidence of stains on ground, discolored water, pools of liquid on the ground, debris)	General housekeeping fair Some staining of the bank and a slight sheen on the water behind facility were noted, but not able to determine if BCF or adjacent property was source
Occupancy (hours occupied)	Security on-site at all times
Utilities Power/gas/water (On/off) Is there a fire hydrant nearby?	All utilities currently active
Lighting (need of portable lights in order to work in the affected area?)	All utilities currently active
Natural Hazards (e.g. poison ivy, poisonous snakes, stray dogs)	None noted

Other hazardous substance indicators (e.g. Dead fish, animals, vegetation; fissures or cracks in solid surfaces to expose deep waste layers, cleared land areas, pits, possible landfilled areas, pools of liquids, distinct odors, anything unusual)	No dead animals seen Evidence of use of English Kills by waterfowl

4. Security

Fencing (complete, partial, type, number of gates)	All sides except rear (water) side
Condition of fences (holes in fence)	Good
Other means of site access (open door, windows etc)	Boat from English Kills
Security Guard/Service (Type, shift hours)	24 hours, 7 days per week

5.Migration Pathways and Potential Receptors

Sewers (Storm or sanitary and distance from site)	Sewers located on Maspeth Avenue Nearest is directly in front of facility
Waterway, Confluences, Water intakes, drinking water wells (Distance from site)	English Kills is rear border of property. English Kills drains to Newtown Creek which drains to the East River
Sensitive ecosystems (wetlands, sanctuaries etc. and distance from site)	None visible Waterfowl seen on English Kills during ERA
Human Exposure (playground, nursing homes, schools etc., Distance from site)	Surrounding industries, residences approximately ½ mile to WSW, Greenpoint Hospital approximately 3/4 mile WSW
Air Pathways (Dust or spray in the air, asbestos, gas generation or effervescence, distinct odors, etc.)	Air exposure potential for surrounding industries and nearby population Potential oil and solvent vapors from materials on site

6. **Instrumentation and Sampling**

Significant instrument readings during investigations (List instrument, levels and background)	None used
Number of samples and type of analysis (e.g. hazcat or lab)	None

7. **Number & Types of Containers**

Container	Number and types of Containers (e..g. plastic, wooden, concrete, metal)	Condition of containers (rusted leaking, bulging corroded etc.)
55-gal drums	60 (approx) Steel 55 gallon	Varies, good to poor
5 - 30 gal containers	None noted	
<5 gal containers	None noted	
Below ground storage tanks (number and sizes; indicate phase levels, etc.)	12 – 1 x 35,000 gallon 1 x 150,000 gallon 10 x 20,000 gallon	Unknown - Tank integrity tests > 10 years old Tanks contain liquid and sludge
Above ground storage tanks (number and sizes; indicate phase levels, etc.)	4 x 110,000 gallon	Good (tanks are old, riveted type but no evidence of leaks)
Secondary containment (Condition, size and type of construction)	Concrete around ASTs	Poor with cracks in walls and slabs
Other (cylinders, explosives, etc.)	2 x 20 cuyd roll-off 2 x oil/water separators 1 x screen tank 1 x 5,000 gallon tanker 1 x 6,000 gallon tanker 4 x box trailers 1 x 250 gallon portable tank	Good (PCB sludge) Poor (contents unknown) Poor (contents unknown) Good (contents unknown) Poor (contents unknown) Poor (contents unknown) Good (contents unknown)
Empty containers (number, type and sizes)	None noted	

8. **Total Estimated Quantities**

CERCLA Hazardous substance	507,000 gallons PCB oil and sludge (300 ppm – 3 ppm)
OIL	46,000 gallons waste oil
RCRA	

9. Material Identification

Classification	Substance	Method of Identification (Labels, hazcat, analysis etc)
CERCLA (identify substances, e.g. benzene, PCB, etc.)	Polychlorinated Biphenyls Unknown	Lab analysis (PRP)
Oil (Type)	Waste oil	Type of business
RCRA hazardous waste		

10. Evidence of Discharge

Evidence of actual discharge (leaking containers, observation of runoffs, etc.)	No significant discharge visible Slight sheen in water behind facility - source unknown NYSDEC reports gasoline and oil in monitoring well on Maspeth Ave
Potential discharge (Haphazard storage, incompatibility, etc.)	Potential for discharge from all containers on-site due to age
Imminent discharge (e.g. damaged drums located at the edge of waterway, etc.)	USTs condition unknown Leak test data not available

11. Pending Actions

Pending Actions to complete investigations (e.g. sampling, hazcat, lab analysis)	Sampling and lab analysis (RAB)

C. Site Legal Status

1. Ownership

Status of Site Ownership	BCF Oil Refining Corporation Attorney – Julian Friedman
Status of Site Operations	Facility nt active, material remains on site

2. Site Cleanup

Previous Actions	Negotiations between PRP and NYSDEC broke down in 3/00 due to impasse on disposal options
Present Actions	NYSDEC has referred site to EPA

3. Enforcement Actions:

Records* *(records at the site or elsewhere)	
Local	Kings County Court maintains trial record for BCF vs Con Edison litigation
State	NYSDEC maintains site files at NYSDEC Long Island City, NY office
EPA	Site file initiated
Other	PRP maintains records from facility operations and BCF vs Con Edison litigation

4. Suspected PRPs

Name	Address	Phone
BCF Oil Refining Corporation	360 Maspeth Avenue, Brooklyn, NY	Unknown – Contact PRP attorney

E. Other Information

1. List of Contacts/ Other Notifications

Name	Affiliation	Address	Phone
Richard Gardineer	NYSDEC	47 - 40 21st Street, Long Island City, NY	718-482- 4995 718-482-4931
Anthony Sigona	NYSDEC	Long Island City, NY	
Julian Friedman	RP Attorney	425 Park Avenue New York, NY 10022	212-223-0200

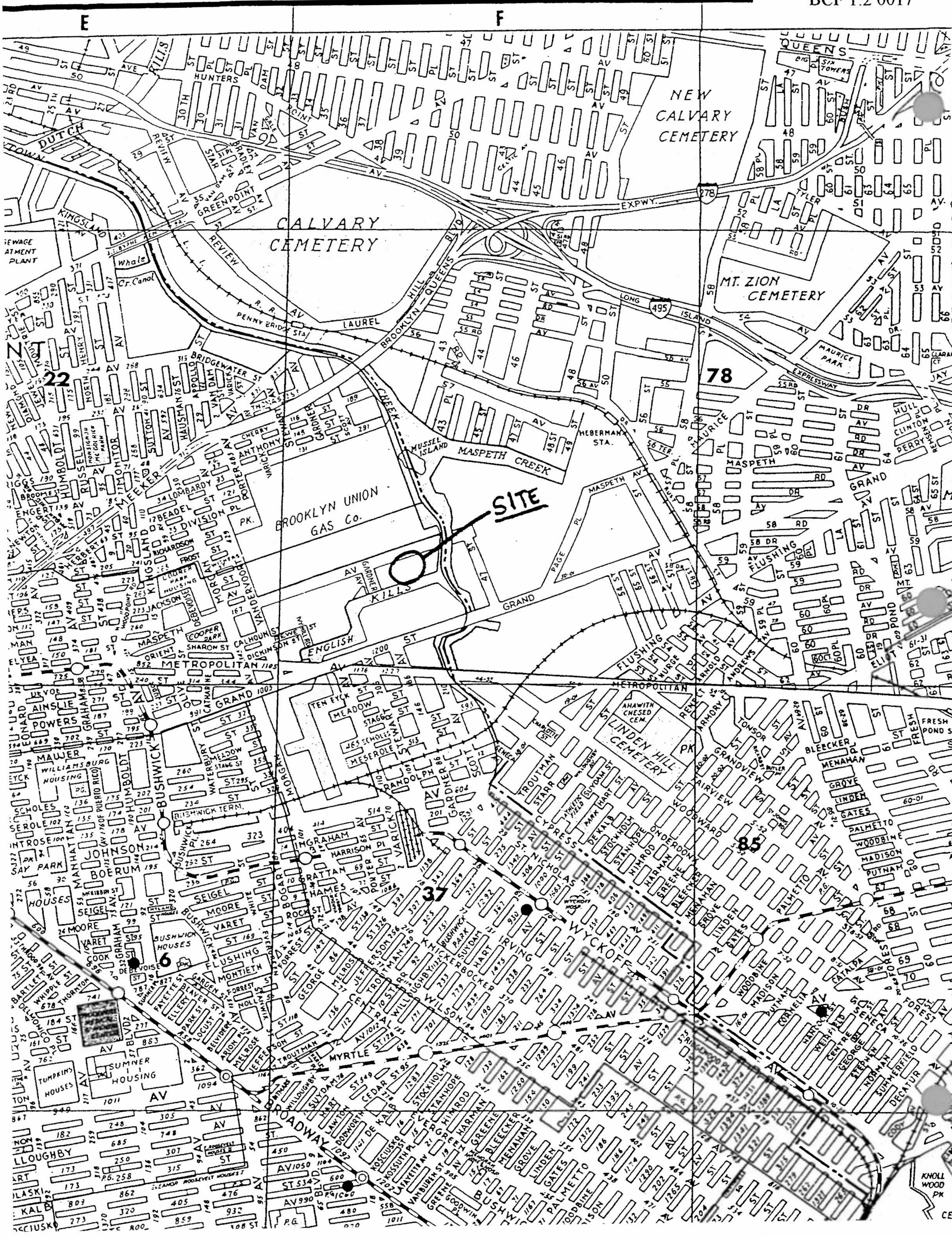
2. Additional Information

None

3. Site Sketch, Maps, Photographs (append)

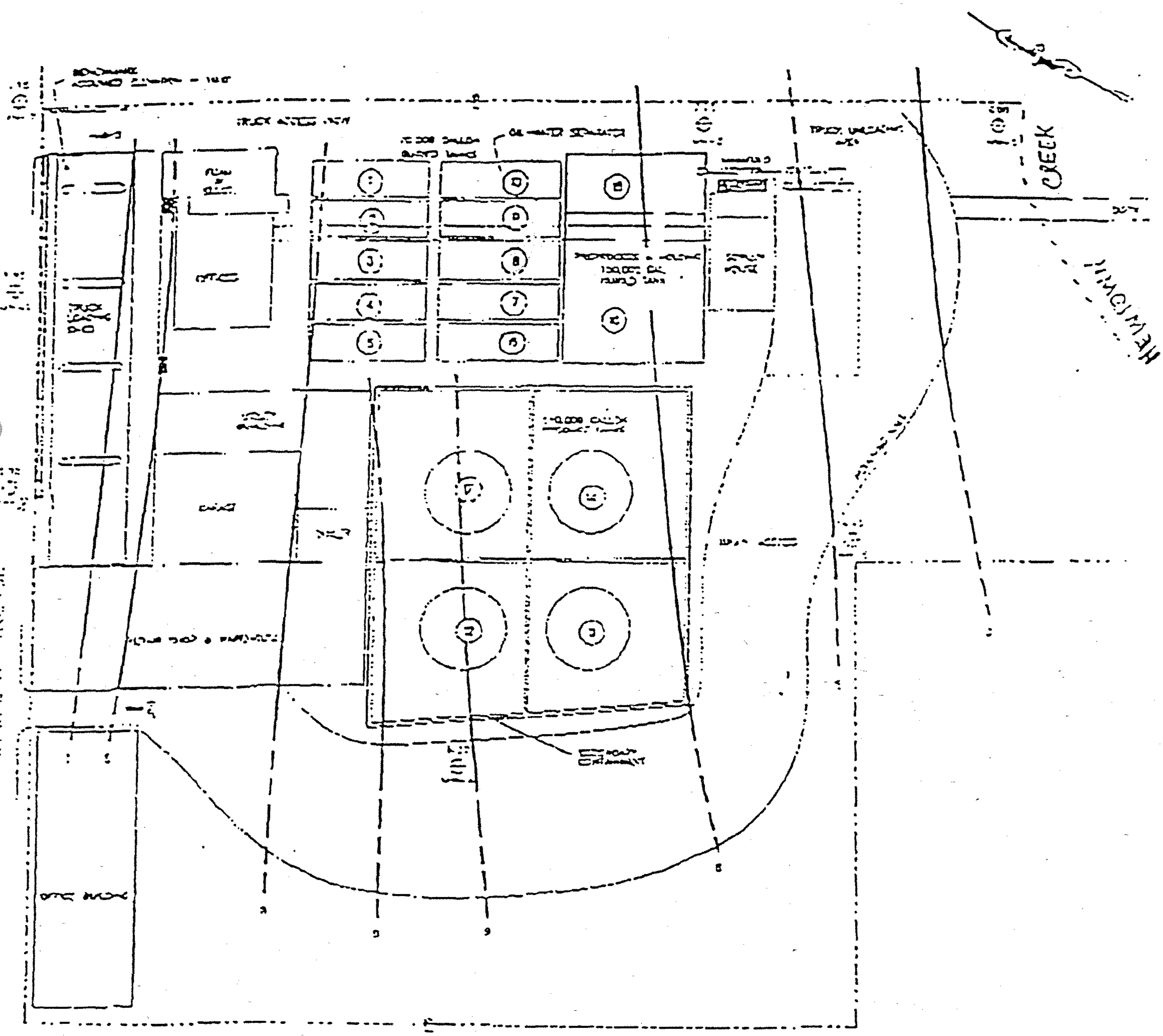
See attached: Location map
Facility map
Photographs

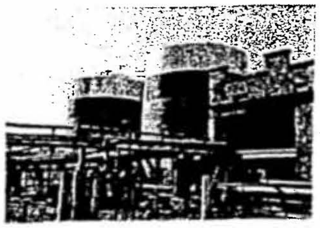
FOR ADJOINING AREA SEE MAP NO.11



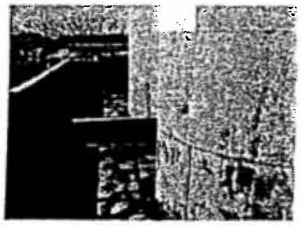
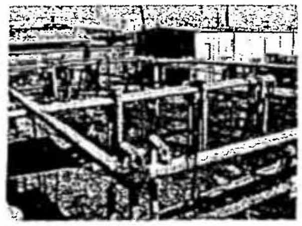
ATTACHMENT B

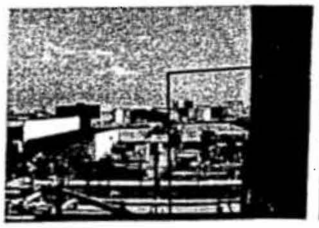
B.C.F. OIL REFINING FACILITY



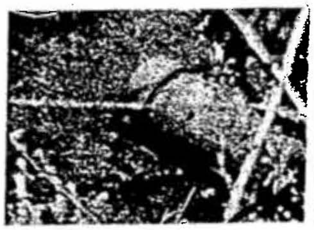
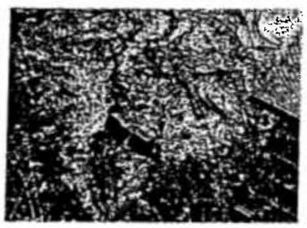




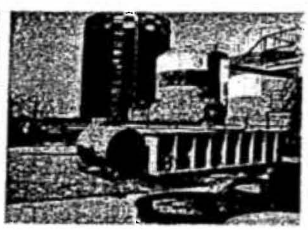




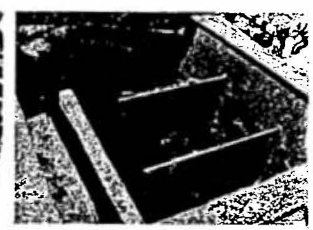


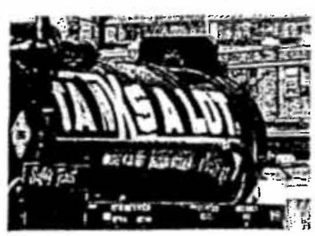
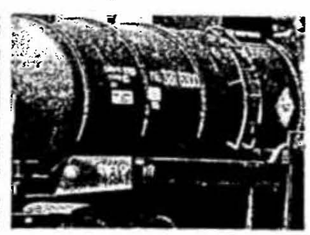


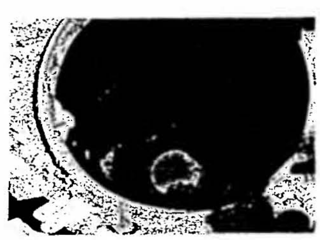
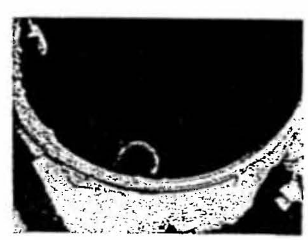









UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

290 BROADWAY

NEW YORK, NEW YORK 10278

BCF 1.2 0020

APR 27 2000

Mr. Michael J. O'Toole, Director
Division of Hazardous Waste Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

Dear Mr. O'Toole:

The Removal Program received your March 24, 2000, request for a CERCLA Emergency Response Action at the BCF Oil Refining, Inc., (BCF) Site, located at 360 Maspeth Avenue, Brooklyn, Kings County, New York.

EPA has conducted a Site reconnaissance and is gathering and reviewing Site files. BCF continues to provide Site security. BCF has agreed to notify EPA one week in advance should they decide to discontinue Site security.

EPA has determined that a removal action is warranted at the BCF Site. EPA has met with representatives of the owners of BCF to inquire if the owners would conduct a removal action at the Site. Deliberations regarding this matter are ongoing. If the owners refuse to take timely and appropriate action then EPA will take an appropriate response.

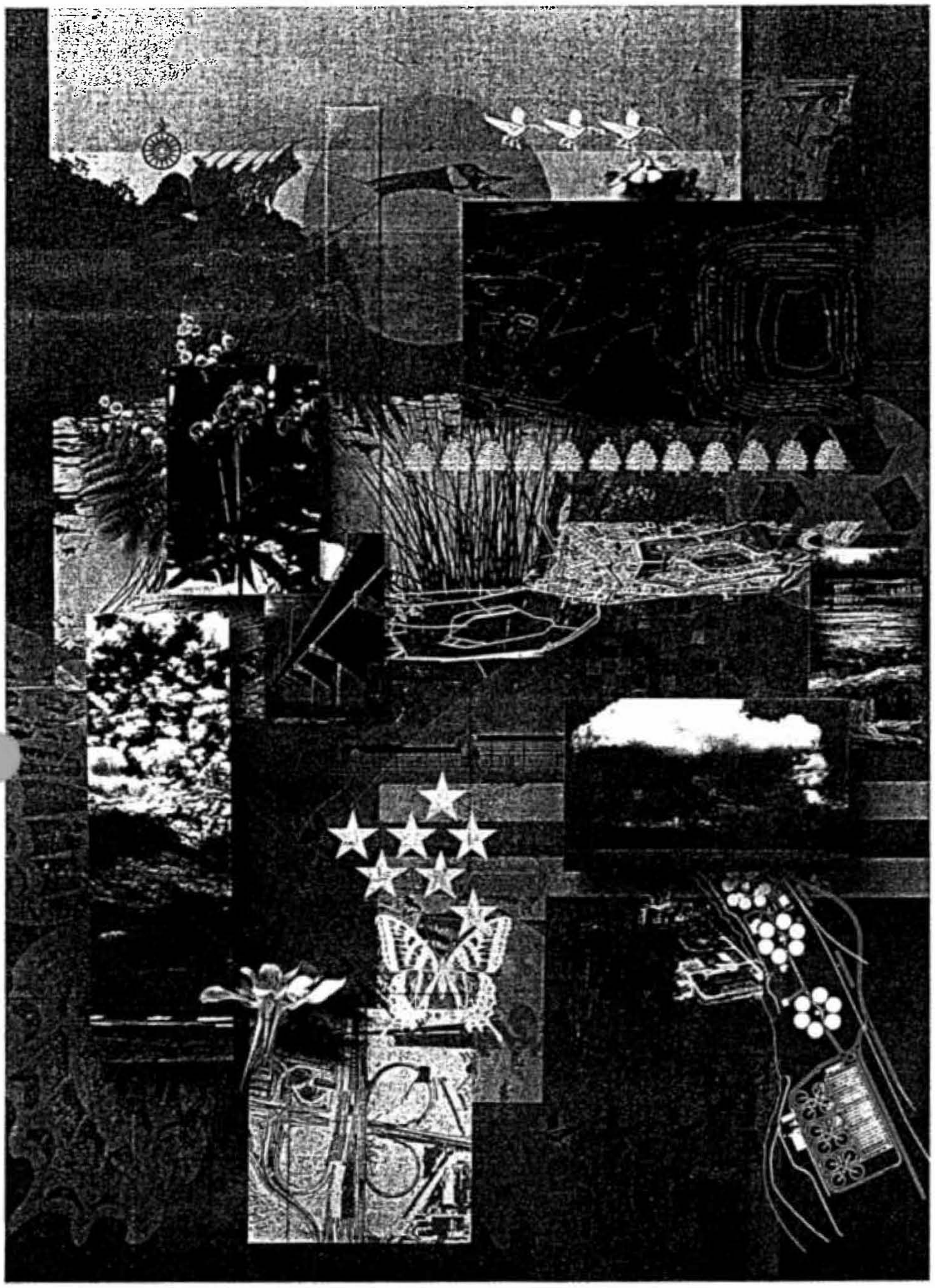
Should you have any questions or require further information please call Thomas Budroe at (732) 906-6191.

Sincerely yours,

Richard L. Caspe, Director
Emergency and Remedial Response Division

cc: R. Salkie, ERRD-RAB
J. Witkowski, ERRD-RAB
T. Budroe, ERRD-RAB
R. Gardineer, NYSDEC

Quality • Integrity • Creativity • Responsiveness



ANALYSIS OF CONTAMINATED OIL B.C.F OIL REFINERY, BROOKLYN, NEW YORK

Prepared for:

B.C.F. Oil Refining, Inc.
360 Maspeth Avenue
Brooklyn, New York 11211

Prepared by:

Rust Environment &
Infrastructure
12 Metro Park Road
Albany, New York 12205

August, 1996

Quality through teamwork

Rust Environment & Infrastructure

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

1.0 INTRODUCTION

This report has been prepared at the request of Stillman Friedman & Shaw, P.C. Rust Environment and Infrastructure, Inc. (Rust) has been retained by Stillman Friedman & Shaw to assist them in providing legal services to their client, B.C.F. Oil Refining, Inc. (BCF). BCF owns and operates a waste oil refining and recycling facility, located at 360 Maspeth Avenue, Brooklyn, New York.

The BCF facility refines used oil and "tank bottoms" for use in boilers and other energy recovery applications. The facility consists of 12 underground tanks (Tanks 1-10, 15, 16) for processing raw materials and 4 above ground tanks (Tanks 11, 12, 14, 17) for storage of the finished products. The approximate locations of the tanks are depicted on Figure 1. Incoming material is tested to determine if it meets the requirements for total chlorinated organic content, polychlorinated biphenyl compound (PCB) content and flashpoint. Depending on the physical characteristics of the incoming material (e.g. water and solids content, viscosity) it is then processed in one or more underground tanks for removal of excess water, filtering of solids and debris, heating and blending. The finished material is then transferred to one of the four above ground tanks for storage and sale.

Sometime prior to August 1994, BCF discovered that the contents of their tanks had been contaminated with PCBs. On or about August 3, 1994 BCF sampled the contents of each of the 16 tanks and submitted the samples to Dexsil Laboratory, Hamden, Connecticut for PCB analysis (see Appendix B for Dexsil laboratory reports). Dexsil reported the presence of PCBs in all of the samples at concentrations ranging from 1 to 630 parts per million (ppm). Concentrations exceeded 50 ppm in Tanks 2, 5, 11, 12 and 14. As a result of these test results, BCF suspended normal operations at the facility until appropriate clean-up measures can be implemented.

On January 25, 1995, Rust sampled the contents of two of the tanks for the purpose of determining the composition and concentration of the previously identified PCB contamination. On April 18, 1995, all of the BCF tanks were sampled by CH2M Hill, Inc. (CHI) on behalf of Consolidated Edison Company of New York, Inc. (ConEdison). Rust was present to observe CHI's sampling procedures and to split the samples for independent PCB analysis. Rust also submitted a sample for analysis of a wide range of other organic compounds which might be associated with the identified PCB contamination. This report describes the methods and results of the January and April 1995 sampling and analysis efforts. In addition, this report presents Rust's conclusions regarding the probable source of the identified contamination.

2.0 METHODS AND MATERIALS

This section describes the procedures and equipment used in the sampling of the BCF tank contents. In order to protect the health and safety of on-site personnel, Rust's sampling activities were performed in accordance with the procedures specified in the site specific Health and Safety Plan dated January, 1995 (ref. 1).

2.1 January 1995 Sampling by Rust

Samples of finished product were collected from Tank 11 and Tank 14 on January 25, 1995 (see Figure 1 for approximate tank locations). The samples were obtained through the access hatch on the top of each tank. In order to evaluate the effect of potential stratification of the oil within the tank, the samples were obtained from discreet depths using a Bacon bomb sampler.

The Bacon bomb sampler is a closed metal vessel which is lowered in the liquid to a predetermined depth. Upon reaching that depth, a valve is manually opened to allow the bomb sampler to fill with liquid. The valve is then closed and the bomb retrieved. The bomb sampler was lowered using new nylon cord which was disposed of after each sample.

Discreet samples were obtained at 20 feet and 30 feet below the access hatch on the top of each tank. Samples were poured into pre-cleaned glass jars with Teflon lids that had been provided by the laboratory in a sealed shipping container. The filled jars were labeled, placed in individual "zip loc" plastic bags and placed in a cooler with ice for transportation to the laboratory. Chain of Custody forms were filled out by the sampler to document custody of the samples during transportation to the laboratory.

The Bacon bomb sampler was decontaminated before collecting each sample at a decontamination station set up on a sheet of new polyethylene film. The decontamination procedure consisted of the following steps:

1) rinse with hexane to remove heavy residue of oil,

2) wash in Liquinox detergent and tap water,

3) rinse with hexane,

4) rinse with methanol,

5) rinse with deionized water and dry with new paper towels.

Additional samples from the 20 foot depth in Tank 11 were prepared for matrix spike and matrix spike duplicate analyses. All samples were submitted to Northeast Analytical, Inc. of Schenectady, New York for PCB analysis by USEPA SW-846 Method 8080. Table 1 summarizes the samples collected on this date.

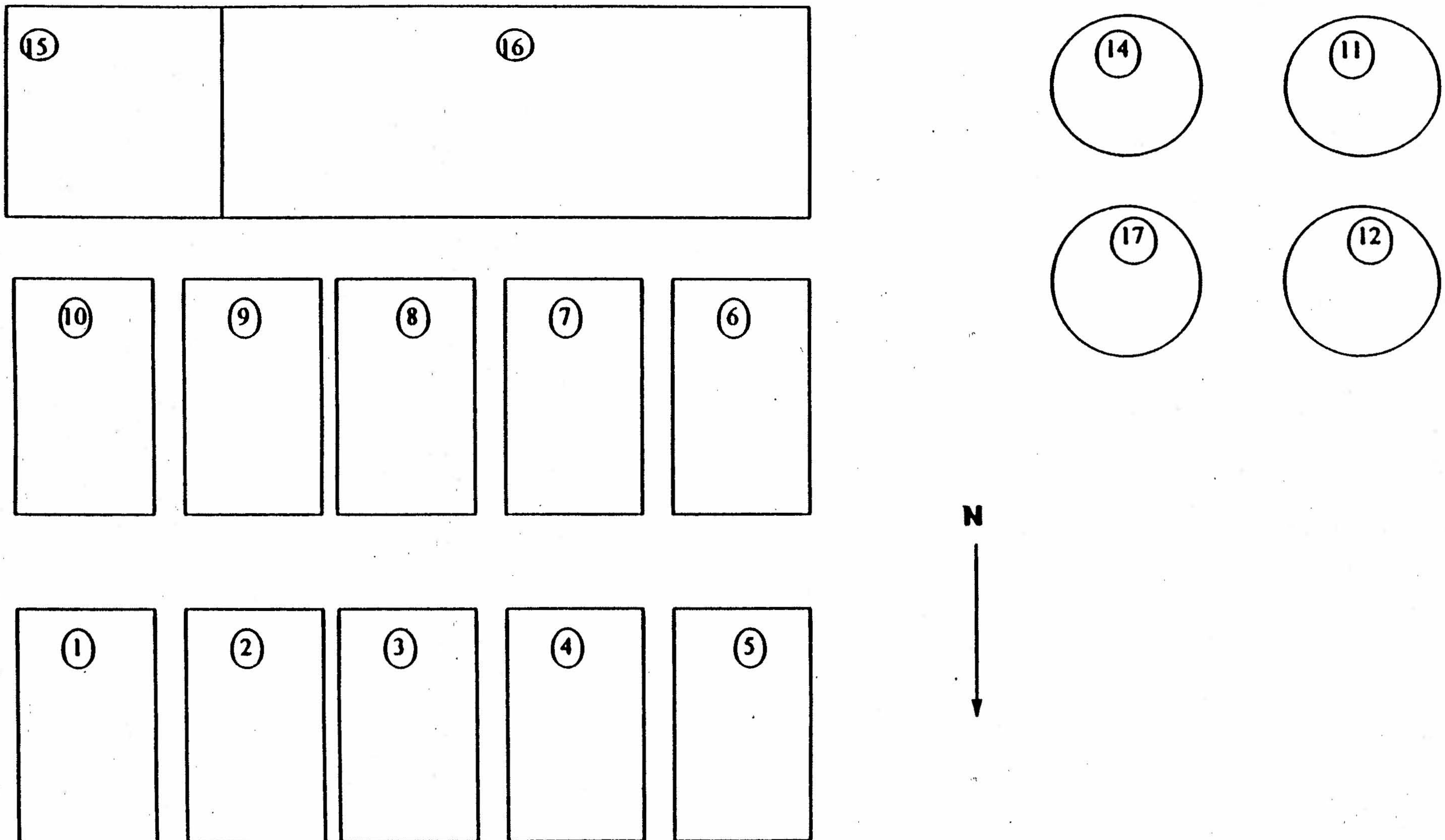


Figure 1

B. C. F. Oil Refining Facility - Tank Locations

(not to scale)

BCF 1.4 0005

Table 1
B.C.F. oil Refining
Samples of Tank Contents

Sample ID	Tank No.	Depths	Composite	Date Collected	Collection Vessel	Sample Matrix	Analyses Performed
Tank 11 20'	11	20'	N	01/25/95	Bacon Bomb	oil	PCBs SW-846 8080
Tank 11 20' MS	11	20'	N	01/25/95	Bacon Bomb	oil	PCBs SW-846 8080
Tank 11 20' MSD	11	20'	N	01/25/95	Bacon Bomb	oil	PCBs SW-846 8080
Tank 11 30'	11	30'	N	01/25/95	Bacon Bomb	oil	PCBs SW-846 8080
Tank 14 20'	14	20'	N	01/25/95	Bacon Bomb	oil	PCBs SW-846 8080
Tank 14 30'	14	30'	N	01/25/95	Bacon Bomb	oil	PCBs SW-846 8080
Tank 1, 8, 14	1	8', 14'	Y	04/18/95	Bailer/dipper	oil	PCBs SW-846 8080
Tank 2, 6.5, 14	2	6.5', 14'	Y	04/18/95	Bailer/dipper	oil, sed	PCBs SW-846 8080
Tank 3, 6.5, 11	3	6.5', 11'	Y	04/18/95	Bailer/dipper	oil, sed, water	PCBs SW-846 8080
Tank 4, 1, 5	4	1', 5'	Y	04/18/95	Bailer/dipper	sed., liquid	PCBs SW-846 8080
Tank 5, 7, 12.5	5	7', 12.5'	Y	04/18/95	Bailer	oil	PCBs SW-846 8080
Tank 6, 7.5, 9.5	6	7.5', 9.5'	Y	04/18/95	Bailer/dipper	oil, sed.	PCBs SW-846 8080
Tank 7, 6, 14	7	6', 14'	Y	04/18/95	Bailer/dipper	oil, sed.	PCBs SW-846 8080
Tank 8, 9, 11.5	8	9', 11.5'	Y	04/18/95	Bailer/dipper	sludge, oil	PCBs SW-846 8080
Tank 9, 6, 8, 12.5	9	6', 8', 12.5'	Y	04/18/95	Bailer/dipper	oil, solids	PCBs SW-846 8080
Tank 10, 12, 15	10	12', 15'	Y	04/18/95	Bailer/dipper	oil, water	PCBs SW-846 8080
Tank 15, 4, 9	15	4', 9'	Y	04/18/95	Bailer/dipper	oil, water	PCBs SW-846 8080
Tank 16, 2.5, 7	16	2.5', 7'	Y	04/18/95	Bailer/dipper	oil, water, sed.	PCBs SW-846 8080
Tank 14, 16, 20	14	16', 20'	Y	04/18/95	Bailer	oil	PCBs SW-846 8080
Tank 14, 16, 20 MS	14	16', 20'	Y	04/18/95	Bailer	oil	PCBs SW-846 8080
Tank 14, 16, 20 MSD	14	16', 20'	Y	04/18/95	Bailer	oil	PCBs SW-846 8080
Tank 11, 15, 23	11	15', 23'	Y	04/18/95	Bailer	oil	PCBs SW-846 8080 VOAs SW-846 8260 Semi VOAs SW-846 8270
Tank 17, 23, 26	17	23', 26'	Y	04/18/95	Bailer	oil	PCBs SW-846 8080
Tank 12, 15, 23	12	15', 23'	Y	04/18/95	Bailer	oil	PCBs SW-846 8080
Duplicate	11	15', 23'	Y	04/18/95	Bailer	oil	PCBs SW-846 8080
Field Blank	----	---	---	04/18/95	Bailer/dipper	Deionized Water	PCBs SW-846 8080

BCF-1.WK4

2.2 April 1995 Sampling by CH2M Hill, Inc.

On April 18, 1995, CHI collected samples of the contents of all 16 tanks at the facility. Rust was present during this activity to observe the sampling and to collect splits of the samples for independent laboratory analysis.

Because solids as well as liquids (oil and water) were expected in the raw material processing tanks, CHI used two different sampling devices to collect different materials from the tanks. A disposable bailer was used to sample liquid contents. The bailer was 12 inches long, constructed of Teflon with a stainless steel weight, and equipped with bottom and top ball check valves. The ball check valves permitted fluids to load continuously while the bailer was descending through the tank contents. (Thus, the liquid samples collected with CHI's bailers did not reflect discreet depths as did those obtained by Rust using the Bacon bomb sampler.) The bailer was lowered with braided polypropylene line. The bailer and the line were discarded after use in one tank.

CHI also used a dipper to sample the solid material and sludge sometimes found at the bottom of the raw material processing tanks. The dipper consisted of an open glass vial or jar taped to the end of a metal rod. The glass vial or jar was discarded after use in one tank, and the rod was decontaminated by wiping with a paper towel and hexane.

CHI composited the material obtained from each tank into one sample for the particular tank. In general, a sample of liquid was obtained from the upper portion of the tank contents and a sample of solids or sludge was obtained from the tank bottom. Oil (liquid) samples only were obtained from the four finished product tanks. The sampled materials were combined in a new, one quart jar and mixed by rocking or gently shaking the jar. To insure representative split samples, the combined material was poured into the respective (CHI's and Rust's) laboratory sample containers by alternately filling the containers in approximate one-third installments.

Rust's splits were placed in laboratory supplied, pre-cleaned glass jars with Teflon lids that had been provided by the laboratory in a sealed shipping container. The filled jars were labeled, placed in individual "zip loc" plastic bags and placed in a cooler with ice for transportation to the laboratory. Chain of Custody forms were filled out by the Rust representative to document custody of the samples during transportation.

A blind duplicate of the sample from Tank 11 was prepared to evaluate the reproducibility of the laboratory analytical results. Additional samples from Tank 14 were prepared for matrix spike and matrix spike duplicate analyses. All of Rust's splits were submitted to Northeast Analytical, Inc. of Schenectady, New York for PCB analysis by USEPA SW-846 Method 8080 with second column confirmation. Rust's split of the sample from Tank 11 was also analyzed for volatile organic analytes (VOAs) by USEPA SW-846 Method 8260 and for semi-VOAs by USEPA SW-846 Method 8270.

A summary of all samples collected during the April 1995 effort is provided in Table 1. The table reflects the types of materials sampled (oil, water, sediment, sludge) and the sampling equipment used. Because of the type of equipment and procedures used by CHI, the depths denoted in Table 1 reflect the approximate depth to which the bailer and dipper were lowered.

3.0 RESULTS

3.1 January 1995 Sampling by Rust

The data reporting package for the PCB analyses performed by Northeast Analytical is provided in Appendix G. The laboratory results for the four oil samples and the matrix spike samples were validated by Rust to evaluate the data quality. The validity of the data was assessed in accordance with applicable criteria from the United States Environmental Protection Agency (EPA) and the New York State Department of Environmental Protection (DEC). A summary of the data validation is provided in Appendix C. No reasons were found during the data validation to qualify any of the reported results and all data were found to be usable.

A summary of the January 1995 analytical results for the oil samples from Tanks 11 and 14 is provided in Table 2. The January 1995 samples were analyzed for PCBs by USEPA SW-846 Method 8080 (ref. 3). This method is designed to detect the presence of any of seven Aroclors[1] (Aroclor 1016, 1221, 1232, 1242, 1248, 1254, 1260). Of the seven Aroclors analyzed for, only Aroclor 1242 and Aroclor 1260 were identified. A comparison of the results for the samples taken from the 20 foot versus 30 foot depth reveals no significant depth related differences within either tank. In each sample, Aroclor 1260 was reported at higher concentrations than Aroclor 1242.

3.2 April 1995 Sampling by CH2M Hill, Inc.

The data reporting packages for the PCB, Volatile and Semi-volatile analyses of Rust's split samples, are provided in Appendices H, I and J. Rust validated the laboratory results for the sixteen oil samples and the four quality assurance/quality control (QA/QC) samples to evaluate the data quality. The validity of the data was assessed in accordance with applicable criteria from the United States Environmental Protection Agency (EPA) and the New York State Department of Environmental Conservation (DEC). A summary of the PCB data validation is provided in Appendix D. Of the 224 PCB data points, 12 are qualified as estimated and all are considered valid and usable. Summaries of the volatile and semi-volatile data validations are provided in Appendices E and F. Of the 57 volatile data points, none are qualified as estimated and all are considered valid and usable. Of the 64 semi-volatile data points, none are qualified as estimated and all are considered valid and usable.

[1]PCBs include a broad range of biphenyl compounds with varying numbers of chlorine atoms located at varying positions on the biphenyl group. There are a total of 209 permutations of the number and placement of the chlorine atoms on the biphenyl molecule. Each permutation is called a congener. The term "Aroclor" followed by a 4 digit number was first used by Monsanto as a trade name for different mixtures of PCB compounds. The first two digits represent the type of molecule; 12 denotes chlorinated biphenyl. The last two digits signify the weight percent of chlorine in the mixture.

Table 2
B.C.F. Oil Refining
Results of P.C.B. Analyses

	January 25, 1995			April 18, 1995		
	depths	Aroclor 1242*	Aroclor 1260*	composited depths	Aroclor 1242*	Aroclor 1260*
TANK 1		na	na	8' & 14'	0.500 U	**6.70**
TANK 2		na	na	6.5' & 14'	**6.13**	**92.5**
TANK 3		na	na	6.5' & 11'	0.746 U	**42.4**
TANK 4		na	na	1' & 5'	0.500 U	**12.8**
TANK 5		na	na	7' & 12.5'	**6.54**	**109**
TANK 6		na	na	7.5' & 9.5'	0.500 U	**28.6**
TANK 7		na	na	6' & 14'	5.00 U	**30.3**
TANK 8		na	na	9' & 11.5'	0.500 U	**3.29**
TANK 9		na	na	6' & 8' & 12.5'	0.500 U	0.500 U
TANK 10		na	na	12' & 15'	1.60 U	1.60 U
TANK 11	20'/30'	**51.7/51.8**	**440/473**	15' & 23'(dup)	**46.2(39.3)**	**248(398)**
TANK 12		na	na	15' & 23'	**6.96**	**99.2**
TANK 14	20'/30'	**26.2/26.2**	**250/248**	16' & 20'	**23.5**	**174**
TANK 15		na	na	4' & 9'	0.500 U	**1.32**
TANK 16		na	na	2.5' & 7'	0.500 U	**3.91**
TANK 17		na	na	23' & 26'	0.500 U	**7.14**

Bold indicates positive result
na = Not Analyzed
All results reported in ug/g (ppm)
* All other Aroclors were not detected.

Data Qualifiers

- U — The compound was analyzed for but not detected at or above the quantitation limit indicated.
- J — The compound was analyzed for and determined to be present in the sample because the mass spectrum of the compound meets the identification criteria of the method. The concentration reported is an estimated value, less than the practical quantitation limit for the sample.
- B — The compound is also found in an associated blank.
- D — The reported value is taken from an analysis of a diluted sample.
- E — The reported value exceeds the calibration range of the instrument.

A summary of the April 1995 PCB analytical results is provided in Table 2. As in the January 1995 sampling effort, seven different Aroclors were analyzed for by USEPA SW-846 Method 8080. Consistent with the results of the January 1995 sampling, only Aroclor 1242 and Aroclor 1260 were detected. Also consistent with the January results, Aroclor 1260 was found at higher concentrations than Aroclor 1242. Aroclor 1242 was not reported in samples from tanks with relatively low PCB concentrations (tank nos. 1, 3, 4, 6-10, 15-17).

A duplicate of the sample from Tank 11 was submitted to the laboratory for blind duplicate analysis. Comparison of the two independent results indicates acceptable analytical and sampling variability.

A summary of the VOA/Semi-VOA analytical results for Tank 11 is provided in Table 3. Because of the high concentrations of a number of analytes in this oil sample, the sample was diluted and reanalyzed in order to enable quantitation of certain analytes within the calibrated range of the laboratory instrumentation. The qualifier "D" denotes results derived from the diluted sample. Other analytes were identified at concentrations below the quantitation limit for the sample. The qualifier "J" denotes estimated concentrations of these analytes.

Several chlorinated benzene compounds were found in the sample. The 1,2,3- and 1,2,4- isomers of trichlorobenzene were identified by method 8260 at concentrations of 88,000 and 160,000 ug/Kg respectively. 1,2,4-trichlorobenzene was also analyzed for and found at 220,000 ug/Kg by method 8270[2]. 1,2-dichclorobenzene was identified by method 8260 at 11,000 ug/Kg. Low levels of the 1,3- and 1,4- isomers of dichlorobenzene were reported, but at estimated concentrations below the practical quantitation limit for the sample. The dichlorobenzene isomers were not identified by method 8270 because the elevated quantitation limits significantly exceed the dichlorobenzene concentrations.

Five other halogenated compounds were identified by method 8260. The chlorinated solvents tetrachloroethene, 1,1,1-trichloroethane and trichloroethene were found at 41,000, 36,000 and 16,000 ug/Kg respectively. Dichlorodifluoromethane and trichlorofluoromethane, identified at 1,300(J) and 61,000 ug/Kg respectively, are typical refrigerants, electronic parts cleaners and aerosol propellants (Freon).

The remaining compounds identified in Tank 11 are typical constituents of used lubricating oils and petroleum distillates such as fuel oils. These include the following Polycyclic Aromatic Hydrocarbons (PAHs): acenaphthene, anthracene, chrysene, fluorene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene. Other typical petroleum related compounds identified in the oil include benzene, butylbenzenes, ethyl- and isopropylbenzenes, n-propylbenzene, toluene, trimethylbenzenes and xylenes.

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[2]The relative percent difference (RPD) between the two 1,2,4-trichlorobenzene results (100 multiplied by the difference between the two results, divided by the average of the two results) is 31.6, which is within the range of normal sampling and analytical variability.

Table 3
B.C.F. Oil Refining
Positive Results of VOA and Semi-VOA Analysis of Tank 11*

VOLATILE ORGANICS (SW-846 8260)	ug/kg (ppb)	
BENZENE	27000	
n-BUTYLBENZENE	72000	B
sec-BUTYLBENZENE	54000	
1,2-DICHLOROBENZENE	11000	
1,3-DICHLOROBENZENE	1900	J
1,4-DICHLOROBENZENE	5500	J
DICHLORODIFLUOROMETHANE	1300	J
ETHYL BENZENE	110000	B
ISOPROPYLBENZENE	44000	
4-ISOPROPYL TOLUENE	68000	
NAPHTHALENE	380000	BJ
n-PROPYLBENZENE	120000	
TETRACHLOROETHENE	41000	
TOLUENE	270000	D
1,2,3-TRICHLOROBENZENE	88000	
1,2,4-TRICHLOROBENZENE	160000	BD
1,1,1-TRICHLOROETHANE	36000	
TRICHLOROETHENE	16000	
TRICHLOROFLUOROMETHANE	61000	
1,2,4-TRIMETHYLBENZENE	570000	D
1,3,5-TRIMETHYLBENZENE	160000	D
o-XYLENE	170000	D
m&p-XYLENE	430000	D
SEMIVOLATILE ORGANICS (SW-846 8270)		
ACENAPHTHENE	97000	J
ANTHRACENE	43000	J
BENZO(a)ANTHRACENE	24000	J
CHRYSENE	52000	J
BIS(2-ETHYLHEXYL)PHTHALATE	120000	
FLUORENE	100000	
2-METHYLNAPHTHALENE	2000000	D
NAPHTHALENE	510000	
PHENANTHRENE	310000	
PYRENE	89000	J
1,2,4-TRICHLOROBENZENE	220000	

* Sample TK-11, 15, 23 (April 18, 1995) composited from samples taken at 15' and 23' below tank top.

Data Qualifiers

U The compound was analyzed for but not detected at or above the quantitation limit indicated.

J The compound was analyzed for and determined to be present in the sample because the mass spectrum of the compound meets the identification criteria of the method. The concentration reported is an estimated value, less than the practical quantitation limit for the sample.

B The compound is also found in an associated blank.

D The reported value is taken from an analysis of a diluted sample.

E The reported value exceeds the calibration range of the instrument.

4.0 CONCLUSIONS

The volatile and semi-volatile analyses of tank contents at BCF identified several compounds that would be expected in the heating oil tank bottoms and used crankcase and lubricating oils normally collected by BCF for recycling. PAH compounds such as acenaphthene, anthracene, chrysene, fluorene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene are typical components of petroleum products and used crankcase oils. Benzene, butylbenzenes, ethyl- and isopropylbenzenes, n-propylbenzene, toluene, trimethylbenzenes and xylenes are also natural constituents of petroleum products such as fuel oils.

In contrast, certain categories of compounds found in the BCF tanks would not be derived from heating oil tank bottoms and used crankcase and lubricating oils. PCBs are one such category of compounds. The results of the sampling and analysis efforts conducted at the BCF terminal have consistently identified concentrations of PCBs in excess of 50 ppm in the contents of Tanks 2, 5, 11, 12 and 14. Lower concentrations (1 to 48 ppm) have been identified on at least one occasion in the contents of all other tanks. The results of the sampling and analysis efforts demonstrate consistency in the identification of Aroclors. Of the seven Aroclors analyzed for, only Aroclor 1242 and Aroclor 1260 have ever been found in the Tank contents at the BCF facility. Rust's analyses have identified both of these Aroclors in the tanks with elevated (greater than 50 ppm) PCB concentrations.

PCB Aroclors had a variety of disparate applications including electrical transformers and capacitors, vacuum pumps, hydraulic fluids, plasticizers, wax extenders, adhesives and pesticide extenders. Different Aroclors were generally not specific to any one application. However, Aroclors 1242 and 1260, the only Aroclors found at BCF, are two of the three Aroclors that were most commonly used in transformer dielectric fluids[3] (ref. 2, 4, 7, 9, 11).

Chlorobenzenes are another category of compounds that would not be derived from heating oil tank bottoms and used crankcase and lubricating oils. The method 8260 and 8270 analyses demonstrate the presence of elevated levels of 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene in the product on BCF's premises. These same trichlorobenzene isomers were widely used in combination with PCBs in the dielectric fluid mixtures of electrical transformers (ref.12,13). The PCB to chlorobenzene ratio typically used in transformer dielectric fluids was in the range of about 70/30 to 60/40 (ref. 8, 10; personal communication, Northeast Analytical Laboratory). This ratio is consistent with the PCB to chlorobenzene ratio found at BCF.

Chlorinated solvents are a third category of compounds that would not be derived from heating oil tank bottoms and used crankcase and lubricating oils at the levels identified in the product on BCF's premises. Since the 1970s, solvents have been used in retro-filling transformers to reduce the level of PCBs in transformers, or in extracting PCBs from transformers prior to discarding the transformer carcass (ref. 6, 8, 40 CFR 761.10, February 17, 1978). Tetrachloroethene, trichloroethene and 1,1,1-

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[3]Dielectric fluids are fluids which do not conduct electrical current but which sustain an electrostatic field. In electrical transformers, the dielectric fluids function as insulation between the wires in the transformer coils, and also serve to conduct and dissipate heat generated by the coils.

trichloroethane are used for these purposes (ref. 6, 14). In addition, tetrachloroethene has been used as a principal component of fire resistant transformer fluids (ref. 5). Each of these chlorinated solvents has been found in the product on BCF's premises. While low levels of these solvents might be expected from waste oils generated by automotive repair facilities, such waste oils could not account for the levels of chlorinated solvents found at BCF.

The contents of the BCF tanks are contaminated with a distinctive suite of three categories of chemical waste:

- PCBs consisting of Aroclors 1242 and Aroclor 1260
- Chlorobenzenes including 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene
- Chlorinated solvents consisting of tetrachloroethene, trichloroethene and 1,1,1-trichloroethane

The above three categories of chemicals have been used in combination with one another in the maintenance, retrofilling and decommissioning of PCB Transformers (>500 ppm PCBs) and PCB Contaminated Transformers (50-500 ppm PCBs). Hazardous wastes containing this same combination of chemicals are generated as electrical transformers are retrofilled or removed from service. By contrast, the chemicals present at BCF, at the levels and proportions identified by this study, would not be derived from heating oil tank bottoms or used crankcase or lubricating oils.

In conclusion, the most probable generator of this combination of contaminants would be a facility engaged in the maintenance, retrofilling and disposal of electrical transformers.

5.0 REFERENCES

1) Rust Environment & Infrastructure; *Health and Safety Plan, Tank Sampling, B.C.F. Oil Refining, Inc., 360 Maspeth Avenue, Brooklyn, New York*; January 1995

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4) Franklin Research Center; *PCB Removal From Transformers*; Electric Power Research Institute; May, 1984

5) Springborn Laboratories, Inc.; *Arc Products of Transformer Insulating Systems Containing Tetrachloroethylene*; Electric Power Research Institute; March, 1986

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7) Riley, R.G., Prohammer, L.A. et al.; *Distribution of Polychlorinated Biphenyls (PCBs) in Surface Sediments of Gable Mountain Pond*; Pacific Northwest Laboratory; January, 1986

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9) *Electrical Industry Self-Polices PCB Use*; Electrical World; pp.131-134; June 15, 1976

10) Srearns Conrad and Schmidt Consulting Engineers, Inc.; *Disposal of Polychlorinated Biphenyls (PCBs) and PCB-Contaminated Materials*; Vol. 1; Electric Power Research Institute; October, 1979

11) Ouw, H.K., Simpson, G.R. and Siyali, D.S.; *Use and Health Effects of Aroclor 1242, a Polychlorinated Biphenyl, in and Electrical Industry*; Environmental Health; July/August 1976

12) Verschueren, K.; *Handbook of Environmental Data on Organic Chemicals*; VanNostrand Reinhold; 1983

13) United States Environmental Protection Agency, *Locating and Estimating Air Emissions from Sources of Chlorobenzenes*; March, 1994

14) Occidental Chemical Corporation; Material Safety Data Sheet for "Transclene"; December 16, 1993

6.0 SIGNATURE PAGE

Frank Williams

Frank J. Williams

Senior Project Manager
Rust Environment & Infrastructure

Mr. Williams' billing rate for all aspects of the B.C.F. Oil Refining project is $99.00 per hour.

Appendix A

Resume of Frank J. Williams

Frank J. Williams
Senior Project Manager

Education

B.A. Geology, Princeton University, 1978

Fields of Competence

Geology/Hydrogeology
RI/FS, RCRA Corrective Action
Information/Data Management
Complex Site Evaluation

Experience Summary

Twelve years of varied experience in hydrogeology and petroleum geology, hazardous site investigation and remediation, RCRA Corrective Action, RI/FS and complex environmental site evaluation, including eight years of project management.

Project work has included design and analysis of groundwater monitoring programs, investigation and remediation of industrial and municipal sewer contamination, LNAPL and DNAPL investigation and remediation, soil gas studies, development of large environmental databases, and reconstruction of early industrial site conditions.

Provided expert trial testimony in Federal Court. Responsible for technical direction of projects, evaluation of hydrogeologic issues, control of schedules and budgets, and negotiations with regulatory agencies.

Key Projects

RCRA Corrective Action - Toluene Contaminated Groundwater and Industrial Sewers Project Manager and Geologist for RCRA Facility Investigation at 90 year old industrial adhesives manufacturing facility. Developed and implemented work plan for multi-SWMU investigation encompassing old storm and sanitary sewers and soil and groundwater impacted by LNAPL solvents released by former site occupant.

- Developed preliminary assessment of SWMUs/AOCs as part of RCRA Facility Assessment. Negotiated reduced SWMU inventory based on review of historical documentation of plant design and operation.
- Defined extent of residual LNAPL contamination and migration pathways for both aqueous and non-aqueous phases.
- Conducting focused RFI to resolve relationship between leaking sewers and groundwater. Investigation utilizes contemporaneous data logging of sewer flow rates and groundwater

elevations to determine intervals and quantities of groundwater infiltration and degree of dependency on plant operations and seasonal conditions.

- Negotiated work plan with NYSDEC to develop and pilot test an Interim Remedial Measure.
- Provided expert trial testimony in CERCLA cost recovery litigation against former owner. Addressed issues of toluene migration and persistence in the environment and NCP consistency of client's response actions.

Love Canal Project Manager and Geologist for RUST's multi-disciplinary support of Occidental Chemical Corporation's (OCC) successful Love Canal defense efforts.

- Developed comprehensive evaluation of decade of studies by various government agencies. Defined the distribution of DNAPL and other wastes in soils, sewers and other features of the Love Canal area.
- Reconstructed early conditions of demolished State constructed sewer system and developed evidence enabling OCC to prove that the State's sewer accelerated migration of Love Canal Wastes by a factor of 30,000.
- Developed Geographic Information System (GIS) to facilitate graphic data evaluation and identification of spatial and temporal patterns in 500,000 record analytical database. Hydrologic and geotechnical data have been incorporated. Site history, including residential development and modification of drainage features, is incorporated in the GIS as a series of historic base maps developed from municipal records.
- Constructed flow charts and time-lines to develop understanding of relation between government agency activity and availability of technical information from major Superfund site. Information was reconstructed from significant portions of multi-million page document production by various government agencies.
- Testified in punitive damage and liability phases of trial in Federal Court. Developed graphic exhibits depicting interpretation of complex geotechnical and engineering data sets.
- Reconstructed history of site with innovative photogrammetric mapping using historical aerial photography. Developed time-line diagrams of events leading to declaration of Federal Emergency.
- Compiled evidence of third party contribution to contaminant releases by investigating 19th and 20th century archival documentation of Canal construction and development.
- Coordinated efforts of RUST experts in air photographic interpretation, photogrammetry, computer modeling of soil mechanics, hydraulics and chemical transport modeling.

Port of Rennselaer, New York Oil Terminal Project Geologist for voluntary Remedial Design Study funded by one of the terminal operators to evaluate petroleum contamination and various remedial options.

- Conducted evaluation of product distribution in saturated and unsaturated zone throughout facility.

- Conducted chemical fingerprint study to determine age and sources of different product accumulations.

- Evaluated contributions of product from off-site sources delivered by leaking storm sewer system passing through facility.

- Developed and implemented work plan to evaluate tidal influence from Hudson River on groundwater flow directions and product distribution in aquifer.

Hanscom Air Force Base Project Geologist and Task Manager for base wide hydrogeologic survey to evaluate and synthesize hydrogeologic information generated over decade long period of investigation. Initial activity includes survey of more than 300 existing monitoring wells to determine well integrity and usefulness. Developed criteria for determining utility of existing wells for ongoing monitoring of base hydrology and groundwater quality. Managing integration and databasing of information in Air Force's comprehensive Installation Restoration Program Information Management System (IRPIMS) computer database.

Municipal Sewer Remediation Project Manager and Geologist for remedial investigation and IRM for municipal sewer contaminated by hydrogen sulfide gas.

- Successfully negotiated IRM with NYSDEC, NYSDOH and local regulatory agencies. IRM abates releases of gas caused by degradation of buried waste materials and infiltration through leaking storm sewer joints. IRM functions without interruption of storm water management function or residential use of community .

- Developed air monitoring system to continuously monitor conditions inside sewer. System digitally transmits concentration and LEL data to RUST office for evaluation of IRM effectiveness over changing weather conditions.

Remedial Investigation - Superfund Site Project Manager and Geologist for remedial investigation of PCB contaminated New York State Superfund site.

- Manage voluntary, owner funded Remedial Investigation of property contaminated by PCB oils from former transformer/capacitor salvage operation.

- Developed soil sampling and management plan to facilitate emergency sewer construction through PCB contaminated soils.

- Demonstrated that contaminants were restricted in non-mobile concentrations to upper soil layers and had not adversely impacted site groundwater.

Feasibility Study - DNAPL Contamination Task Manager and Project Hydrogeologist for Feasibility Study of New York State Superfund site contaminated by non-aqueous phase chlorinated solvents. Developed and evaluated alternative technologies and strategies to manage and/or remediate DNAPL and aqueous phase contamination in the bedrock aquifer system.

Expert Witness

Mr. Williams has provided deposition and trial testimony as follows:

United States of America et. al. vs. Hooker Chemicals & Plastics Corporation, et. al.; United States District Court, Western District of New York; 79-CV-990C (Love Canal Landfill); 1990-1991 (deposition and trial)

Nashua Corporation vs. Norton Company; United States District Court, Northern District of New York; 90-CV-1351;1995-1996; (deposition and trial)

The Town of New Windsor vs. Tesa Tuck, Inc., et. al.; United States District Court, Southern District of New York; 92-CV-8754; 1995 (deposition)

Professional Registration and Affiliations

Registered Professional Geologist, Commonwealth of Pennsylvania
Sigma Xi
Hudson Mohawk Professional Geologists Association
National Water Well Association (Association of
Groundwater Scientists and Engineers)

Employment History

1993-Present	RUST Environment & Infrastructure
1986-1993	Dunn Corporation (merged into RUST)
1982-1986	Precision Well Logging, Inc.
1980-1981	Hoffman Construction Company
1977-1979	Department of Energy World Energy Resource Project, Princeton University, Lamont-Doherty Geological Observatory

Appendix B

Dexsil Laboratory Report, August 1994 Sampling

Organic Data Qualifiers

U - The compound was analyzed for but not detected at or above the quantitation limit indicated.

J - The compound was analyzed for and determined to be present in the sample because the mass spectrum of the compound meets the identification criteria of the method. The concentration reported is an estimated value, less than the practical quantitation limit for the sample.

B - The compound is also found in an associated blank.

V - The reported value is considered estimated due to variance from quality control criteria

S - The reported value is suspected to be due to laboratory contamination.

R - The reported value is unusable and rejected due to variance from quality control criteria.

D - The reported value is taken from the analysis of a diluted sample.

E - The reported value exceeds the calibration range of the instrument.

N - Indicates presumptive evidence for compound identification.

A - Indicates that the compound is an aldol condensation product.

C - Compound identification has been qualitatively confirmed by GC/MS.

Appendix E

Data Validation Summary
Method 8260
April 1995 Sampling

Volatile Organics Data Validation Summary
BCF Oil Refining
Brooklyn, New York
Analytical Laboratory: Northeast Analytical, Inc.
Sample Delivery Group 042095REI

Analytical results for one (1) oil sample with matrix QC from BCF Oil Refining were reviewed to evaluate the data quality. Data were assessed in accordance with criteria from the EPA Region II document CLP Organics Review and Preliminary Review (SOP No. HW-6, Revision #8, January 1992), where applicable, and the New York State Department of Environmental Conservation Analytical Services Protocol (December 1991) Category B Deliverables for EPA Method 8260 analysis of volatile organic compounds. This validation pertains to the following samples collected by Rust Environment & Infrastructure and CH2M Hill personnel on April 18, 1995.

TK-11,15,23 **TK-11,15,23 MS** **TK-11,15,23 MSD**

The following items/criteria applicable to the above-listed samples were reviewed:

- Deliverable Requirements
- Case Narrative
- Holding Times
- Surrogate Recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Control Sample (LCS) Data
- Blank Summary and Data
- GC/MS Instrument Performance Check
- Target Compound Identification/Quantitation
- EPA/NIH Mass Spectral Library Search for TICs
- Quantitation Reports and Mass Spectral Data
- Initial and Continuing Calibration Data
- Internal Standard Areas and Retention Times

The above items were in compliance with applicable QC criteria with the exception of the items discussed in the following text. The data have been validated according to the above procedures and qualified as described in the following text.

Deliverable Requirements

Sample TK-11,15,23 was analyzed twice, once at a thousand fold dilution and again at a secondary dilution factor of 10,000 due to the presence of extremely high concentrations of target compounds. EPA validation guidelines requires that the sample result for each compound be reported form the least diluted sample analysis provided that the compound result is not above the linear range of the calibration. Therefore, all results with the exception of the naphthalene, toluene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, o-xylene and m- & p-xylene have been reported from the original analysis (1,000X dilution) of sample TK-11,15,23. The naphthalene, toluene,

Appendix E

Data Validation Summary
Method 8260
April 1995 Sampling

1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, o-xylene and m- & p-xylene results have been reported from the second analysis (10,000X dilution), and all unused results on the Volatile Organic Analysis Data Sheets have been crossed out to avoid confusion.

The compound 1,2,3-trichlorobenzene was detected in method blank VBLK01 and in the associated analysis of sample TK-11,15,23 at a 1,000X dilution. The compound 1,2,4-trichlorobenzene was detected in method blank VBLK02 and in the associated analysis of sample TK-11,15,23 at a 10,000X dilution. The laboratory omitted the "B" qualifier from these results. Although no data have been further qualified based upon this minor clerical error, the validator has flagged each of these results with a "B" as required.

Holding Times and Sample Preparation

The laboratory indicated that the cooler containing these samples arrived at the laboratory with an internal temperature of 9°C, which is outside of the range specified of 2°C to 6°C specified in the ASP. This slightly elevated temperature is not considered to be significant, however, and no data have been qualified based upon this nonconformance. Please note that positive volatile results were obtained for the samples, although the slightly elevated temperature may indicate a potential low bias.

Blank Summary and Data

Methylene chloride, a common laboratory contaminant, was detected in both method blanks (VBLK01 and VBLK02), and in sample TK-11,15,23. The TK-11,15,23 methylene chloride sample concentration, prior to accounting for any dilution, was less than ten (10) times the concentration detected in associated method blank VBLK01. In accordance with EPA validation criteria, the methylene chloride sample result for TK-11,15,23 has been reported as non-detect at the contract required quantitation limit (CRQL).

The compounds n-butylbenzene, ethylbenzene, naphthalene, toluene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene and m&p-xylene were detected in method blank VBLK01 and the compounds naphthalene, 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene were detected in method blank VBLK02. In accordance with EPA validation criteria, no data have been qualified based upon these nonconformances because the concentration of these compounds in the associated analyses of sample TK-11,15,23 were greater than five (5) times the result reported for the associated method blanks.

The compounds 1,2-dibromo-3-chloropropane and hexachlorobutadiene were also detected in method blank VBLK01, and 1,2-dibromo-3-chloropropane was detected in method blank VBLK02. No data have been qualified based upon these nonconformances, however, because neither of these compounds were detected in the associated sample analyses.

Summary

In summary, based on 57 sample data points, none of which were qualified as estimated, and none qualified as unusable, the usability of this data package is 100%.

Please note that the original data validation summary for this package was reviewed by Mr. Timothy J. Fahrenkopf on July 31, 1995 and that this data validation summary is based upon the original data validation performed by Mr. Fahrenkopf as well as my own review of the data.

Reviewed By — 6 AUG 96 — Date

Approved By — 8-6-96 — Date

1A-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-11,15,23
Matrix:	OIL	LAB SAMPLE ID:	952311
Sample wt/vol	5.00 (g)	LAB FILE ID:	M1042512
Level:	MED	DATE RECEIVED:	04/20/95
% Moisture:		DATE ANALYZED:	04/25/95
GC Column:	DB624	DILUTION FACTOR:	1
Soil Extract Volume:	10,000 (uL)	Soil Aliquot Volume:	10 (uL)
Method:	SW-846 8260	NEA Form ID S:\FORMS\CATB\8260\CLP-1A-1.WK4	
		NEA File ID S:\CERT\060495MB.REI	
		CONCENTRATION UNITS:	TJF 7/28/95

CAS NO.	COMPOUND	(ug/kg)	Q
~~71-43-2~~	~~BENZENE~~	~~27000~~	
108-86-1	BROMOBENZENE	10000	U
74-97-5	BROMOCHLOROMETHANE	10000	U
75-27-4	BROMODICHLOROMETHANE	10000	U
75-25-2	BROMOFORM	10000	U
74-83-9	BROMOMETHANE	10000	U
104-51-8	n-BUTYLBENZENE	72000	B
135-98-8	sec-BUTYLBENZENE	54000	
98-06-6	tert-BUTYLBENZENE	10000	U
56-23-5	CARBON TETRACHLORIDE	10000	U
108-90-7	CHLOROBENZENE	10000	U
75-00-3	CHLOROETHANE	10000	U
67-66-3	CHLOROFORM	10000	U
74-87-3	CHLOROMETHANE	10000	U
95-49-8	2-CHLOROTOLUENE	10000	U
106-43-4	4-CHLOROTOLUENE	10000	U
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10000	U
124-48-1	DIBROMOCHLOROMETHANE	10000	U
106-93-4	1,2-DIBROMOETHANE	10000	U
74-95-3	DIBROMOMETHANE	10000	U
95-50-1	1,2-DICHLOROBENZENE	11000	
541-73-1	1,3-DICHLOROBENZENE	1900	J
106-46-7	1,4-DICHLOROBENZENE	5500	J
75-71-8	DICHLORODIFLUOROMETHANE	1300	J
75-34-3	1,1-DICHLOROETHANE	10000	U
107-06-2	1,2-DICHLOROETHANE	10000	U
75-35-4	1,1-DICHLOROETHENE	10000	U
~~156-59-4~~	~~cis-1,2-DICHLOROETHENE~~	~~10000~~	U

1B-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-11,15,23
Matrix:	OIL	LAB SAMPLE ID:	952311
Sample wt/vol	5.00 (g)	LAB FILE ID:	M1042512
Level:	MED	DATE RECEIVED:	04/20/95
% Moisture:		DATE ANALYZED:	04/25/95
GC Column:	DB624	DILUTION FACTOR:	1
Soil Extract Volume:	10,000 (uL)	Soil Aliquot Volume:	10 (uL)
Method:	SW-846 8260		

NEA Form ID: S:\FORMS\CATB\8260\CLP-1B-1.WK4

NEA File ID: S:\CERT\060495MA.REI

TJF (7/28/95)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/kg)	Q
156-60-5	trans-1,2-DICHLOROETHENE	10000	U
78-87-5	1,2-DICHLOROPROPANE	10000	U
142-28-9	1,3-DICHLOROPROPANE	10000	U
590-20-7	2,2-DICHLOROPROPANE	10000	U
563-58-6	1,1-DICHLOROPROPENE	10000	U
100-41-4	ETHYL BENZENE	110000	B
87-68-3	HEXACHLOROBUTADIENE	10000	U
98-82-8	ISOPROPYLBENZENE	44000	
99-87-6	4-ISOPROPYL TOLUENE	68000	
75-09-2	METHYLENE CHLORIDE	1,000 ~~3000~~	~~BJ~~ U
91-20-3	~~NAPTHALENE~~	~~420000~~	~~BE~~
103-65-1	n-PROPYLBENZENE	120000	
100-42-5	STYRENE	10000	U
630-20-6	1,1,1,2-TETRACHLOROETHANE	10000	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	10000	U
127-18-4	TETRACHLOROETHENE	41000	
108-88-3	~~TOLUENE~~	~~280000~~	~~BE~~
87-61-6	1,2,3-TRICHLOROBENZENE	88000	B
120-82-1	~~1,2,4-TRICHLOROBENZENE~~	~~360000~~	~~BE~~
71-55-6	1,1,1-TRICHLOROETHANE	36000	
79-00-5	1,1,2-TRICHLOROETHANE	10000	U
79-01-6	TRICHLOROETHENE	16000	
75-69-4	TRICHLOROFLUOROMETHANE	61000	
96-18-4	1,2,3- TRICHLOROPROPANE	10000	U
95-63-6	~~1,2,4-TRIMETHYLBENZENE~~	~~760000~~	~~BE~~
108-67-8	~~1,3,5-TRIMETHYLBENZENE~~	~~230000~~	~~E~~
75-01-4	VINYL CHLORIDE	10000	U
95-47-6	~~o-XYLENE~~	~~230000~~	~~E~~
108-38-3/106-42-3	~~m&p-XYLENE~~	~~560000~~	~~BE~~

1A-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	042095REI	
ELAP ID No.:	11078		CLIENT ID:	TK-11,15,23	
Matrix:	OIL		LAB SAMPLE ID:	952311RIN	
Sample wt/vol	5.00	(g)	LAB FILE ID:	M1042604	
Level:	MED		DATE RECEIVED:	04/20/95	
% Moisture:			DATE ANALYZED:	04/26/95	
GC Column:	DB624		DILUTION FACTOR:	1	
Soil Extract Volume:	10,000	(uL)	Soil Aliquot Volume:	1	(uL)
Method:	SW-846 8260				

NEA Form ID: S:\FORMS\CATB\8260\CLP-1A-1.WK4

NEA File ID: S:\CERT\060495MC.REI

TJF (7/28/95

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/kg)	Q
~~71-43-2~~	~~BENZENE~~	~~24000~~	~~J~~
108-86-1	BROMOBENZENE	100000	U
74-97-5	BROMOCHLOROMETHANE	100000	U
75-27-4	BROMODICHLOROMETHANE	100000	U
75-25-2	BROMOFORM	100000	U
74-83-9	BROMOMETHANE	100000	U
104-51-8	n-BUTYLBENZENE	63000	J
135-98-8	sec-BUTYLBENZENE	40000	J
98-06-6	tert-BUTYLBENZENE	100000	U
56-23-5	CARBON TETRACHLORIDE	100000	U
108-90-7	CHLOROBENZENE	100000	U
75-00-3	CHLOROETHANE	100000	U
67-66-3	CHLOROFORM	100000	U
74-87-3	CHLOROMETHANE	100000	U
95-49-8	2-CHLOROTOLUENE	100000	U
106-43-4	4-CHLOROTOLUENE	100000	U
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	100000	U
124-48-1	DIBROMOCHLOROMETHANE	100000	U
106-93-4	1,2-DIBROMOETHANE	100000	U
74-95-3	DIBROMOMETHANE	100000	U
95-50-1	1,2-DICHLOROBENZENE	100000	U
541-73-1	1,3-DICHLOROBENZENE	100000	U
106-46-7	1,4-DICHLOROBENZENE	100000	U
75-71-8	DICHLORODIFLUOROMETHANE	100000	U
75-34-3	1,1-DICHLOROETHANE	100000	U
107-6-2	1,2-DICHLOROETHANE	100000	U
75-35-4	1,1-DICHLOROETHENE	100000	U
~~159-59-4~~	~~cis-1,2-DICHLOROETHENE~~	~~100000~~	~~U~~

1B-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	042095REI	
ELAP ID No.:	11078		CLIENT ID:	TK-11,15,23	
Matrix:	OIL		LAB SAMPLE ID:	952311RIN	
Sample wt/vol	5.00	(g)	LAB FILE ID:	M1042604	
Level:	MED		DATE RECEIVED:	04/20/95	
% Moisture:			DATE ANALYZED:	04/26/95	
GC Column:	DB624		DILUTION FACTOR:	1	
Soil Extract Volume:	10,000	(uL)	Soil Aliquot Volume:	1	(uL)
Method:	SW-846 8260				

NEA Form ID: S:\FORMS\CATB\8260\CLP-1B-1.WK4

NEA File ID: S:\CERT\060495MD.REI

TJF (7/28/95)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/kg)	Q
156-60-5	~~trans-1,2-DICHLOROETHENE~~	~~100000~~	~~U~~
78-87-5	~~1,2-DICHLOROPROPANE~~	~~100000~~	~~U~~
142-28-9	~~1,3-DICHLOROPROPANE~~	~~100000~~	~~U~~
590-20-7	~~2,2-DICHLOROPROPANE~~	~~100000~~	~~U~~
563-58-6	~~1,1-DICHLOROPROPENE~~	~~100000~~	~~U~~
100-41-4	~~ETHYL BENZENE~~	~~100000~~	~~D~~
87-68-3	~~HEXACHLOROBUTADIENE~~	~~100000~~	~~U~~
98-82-8	~~ISOPROPYLBENZENE~~	~~30000~~	~~J~~
99-87-6	~~4-ISOPROPYL TOLUENE~~	~~34000~~	~~J~~
75-09-2	~~METHYLENE CHLORIDE~~	~~100000~~	~~U~~
91-20-3	NAPTHALENE	380000	BJ
103-65-1	~~n-PROPYLBENZENE~~	~~81000~~	~~J~~
100-42-5	~~STYRENE~~	~~100000~~	~~U~~
630-20-6	~~1,1,1,2-TETRACHLOROETHANE~~	~~100000~~	~~U~~
79-34-5	~~1,1,2,2-TETRACHLOROETHANE~~	~~100000~~	~~U~~
127-18-4	~~TETRACHLOROETHENE~~	~~35000~~	~~J~~
108-88-3	TOLUENE	270000	D
87-61-6	~~1,2,3-TRICHLOROBENZENE~~	~~55000~~	~~BJ~~
120-82-1	1,2,4-TRICHLOROBENZENE	160000	β D
71-55-6	~~1,1,1-TRICHLOROETHANE~~	~~33000~~	~~J~~
79-00-5	~~1,1,2-TRICHLOROETHANE~~	~~100000~~	~~U~~
79-01-6	~~TRICHLOROETHENE~~	~~100000~~	~~U~~
75-69-4	~~TRICHLOROFLUOROMETHANE~~	~~54000~~	~~J~~
96-18-4	~~1,2,3-TRICHLOROPROPANE~~	~~100000~~	~~U~~
95-63-6	1,2,4-TRIMETHYLBENZENE	570000	D
108-67-8	1,3,5-TRIMETHYLBENZENE	160000	D
75-01-4	~~VINYL CHLORIDE~~	~~100000~~	~~U~~
95-47-6	o-XYLENE	170000	D
108-38-3/106-42-3	m&p-XYLENE	430000	D

Organic Data Qualifiers

U - The compound was analyzed for but not detected at or above the quantitation limit indicated.

J - The compound was analyzed for and determined to be present in the sample because the mass spectrum of the compound meets the identification criteria of the method. The concentration reported is an estimated value, less than the practical quantitation limit for the sample.

B - The compound is also found in an associated blank.

V - The reported value is considered estimated due to variance from quality control criteria

S - The reported value is suspected to be due to laboratory contamination.

R - The reported value is unusable and rejected due to variance from quality control criteria.

D - The reported value is taken from the analysis of a diluted sample.

E - The reported value exceeds the calibration range of the instrument.

N - Indicates presumptive evidence for compound identification.

A - Indicates that the compound is an aldol condensation product.

C - Compound identification has been qualitatively confirmed by GC/MS.

P - Indicates that the percent difference between the results from the two analytical columns is greater than 25%.

Rust En[illegible]onmental
12 Metro . ark Road
Albany, N.Y. 12205 (518) 458-1313

RUST

Client Name:	Stillman Friedman & Shaw	RUST Contact:	Frank Williams 435-7236
Project No.:	38808.000	Laboratory Contact:	Bob Wagner
Site Location:	B.C.F. Oil Refining	Lab Identification:	Northeast Analytical
		Date Report Required:	
Sampler:	CH2M Hill / Frank Williams		

Sample Identification	Date	Time	Sample Matrix	Collection Vessel	Lowering Device	# Sample Containers	NEA #	Preserv.	Comp. or Grab	Comment
TK-11,15,23	4/18/95	16:55	oil	bailer	nylon rope	1	952	311	C	PCBs SW846 8080 *
										VOAs SW846 8260 *
										BN/Acids SW846 8270 *
TK-17,23,26	4/18/95	16:40	oil	bailer	nylon rope	1	952	312	C	PCBs SW846 8080 *
TK-12,15,23	"	17:10	"	"	"	1	952	313	C	PCBs SW846 8080 *

* See Instructions on She[et]

	Name	Affiliation	Date	Time
Relinquished by:	Frank Williams	Rust	4/20/95	16:35
Received by:	Kevin Slater	Rust	4/20/95	16:35
Relinquished by:	Kevin Slater	Rust	4/20/95	1720
Received by:				

	Name	Date
Received by Laboratory:	[illegible signature]	4/20/95
Samples Intact & Properly Preserved:	Yes or	
Laboratory Comments:	COOLER 9°C	

BCF 1.4 0033

000008

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	YES	NO	N/A

PART A: VOA ANALYSES

1.0 Traffic Reports and Laboratory Narrative

	YES	NO	N/A
1.1 Are the Traffic Report Forms present for all samples?	[✓]	___	___

ACTION: If no, contact lab for replacement of missing or illegible copies.

	YES	NO	N/A
1.2 Do the Traffic Reports or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?	___	[✓]	___

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated (J). If a soil sample other than TCLP contains more than 90% water, all data should be qualified as unusable (R).

ACTION: If samples were not iced upon receipt at the laboratory, flag all positive results "J" and all Non-Detects "UJ".

ACTION: If both VOA vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, flag all positive results "J" and all non-detects "R".

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	YES	NO	N/A

2.0 Holding Times

2.1 Have any VOA technical holding times, determined from ~~date of collection~~ VTSR to date of analysis, been exceeded? ___ [✓] ___

If unpreserved, aqueous samples maintained at 4°C which are to be analyzed for aromatic hydrocarbons must be analyzed within 7 days of collection. If preserved with HCl (pH<2) and stored at 4°C, then aqueous samples must be analyzed within ~~14~~ 10 days of collection. If uncertain about preservation, contact sampler to determine whether or not samples were preserved.

The holding time for soils is ~~10~~ 7 days.

Table of Holding Time Violations

Sample ID	Sample Matrix	Preserved?	Date Sampled	(See Traffic Report) Date Lab Received	Date Analyzed

ON: If technical holding times are exceeded, flag all positive results as estimated ("J") and sample quantitation limits as estimated ("UJ"), and document in the narrative that holding times were exceeded. If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re-analysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all results must be qualified "J", but the reviewer may determine that non-detect data are unusable (R). If holding times are exceeded by more than 28 days, all non detect data are unusable (R).

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	YES	NO	N/A

3.0 System Monitoring Compound (SMC) Recovery (Form II)

3.1 Are the VOA SMC Recovery Summaries (Form II) present for each of the following matrices:

	YES	NO	N/A
a. Low Water 0.1	[✓]	___	___
b. Low Soil	[ ]	___	✓
c. Med Soil	[ ]	___	✓

3.2 Are all the VOA samples listed on the appropriate System Monitoring Compound Recovery Summary for each of the following matrices:

	YES	NO	N/A
a. Low Water 0.1	[✓]	___	___
b. Low Soil	[ ]	___	✓
c. Med Soil	[ ]	___	✓

ACTION: Call lab for explanation/ resubmittals. If missing deliverables are unavailable, document effect in data assessments.

3 Were outliers marked correctly with an asterisk? | [✓] | ___ | ___ |

ACTION: Circle all outliers in red.

Was one or more VOA system monitoring compound recovery outside of contract pecifications for any sample or method lank? | ___ | [✓] | ___ |

yes, were samples re-analyzed? | [ ] | ___ | ✓ |

e method blanks re-analyzed? | [ ] | ___ | ✓ |

	YES	NO	N/A

ACTION: If recoveries are > 10% but 1 or more compounds fail to meet SOW specifications:

1. All positive results are qualified as estimated (J).
2. Flag all non-detects as estimated detection limits ("UJ") where recovery is less than the lower acceptance limit.
3. If SMC recoveries are above allowable levels, do not qualify non-detects.

If any system monitoring compound recovery is <10% :

1. Flag all positive results as estimated ("J").
2. Flag all non-detects as unusable ("R").

Professional judgement should be used to qualify data that only have method blank SMC recoveries out of specification in both original and re-analyses. Check the internal standard areas.

		YES	NO	N/A
3.5	Are there any transcription/calculation errors between raw data and Form II?	___	[✓]	___

ACTION: If large errors exist, call lab for explanation/resubmittal, make any necessary corrections and note errors in the data assessment.

4.0 Matrix Spikes (Form III)

		YES	NO	N/A
4.1	s the Matrix Spike/Matrix Spike Duplicate ›covery Form (Form III) present?	[✓]	___	___

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	YES	NO	N/A
4.2 Were matrix spikes analyzed at the required frequency for each of the following matrices:			
a. Low Water oil	[✓]	___	___
b. Low Soil	[ ]	___	✓
c. Med Soil	[ ]	___	✓

ACTION: If any matrix spike data are missing, take the action specified in 3.2 above.

4.3 How many VOA spike recoveries are outside QC limits?

~~Water~~ oil — 0 out of 10
Soils — ___ out of 10

4.4 How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?

~~Water~~ oil — 0 out of 5
Soils — ___ out of 5

ACTION: No action is taken based on MS/MSD data alone. However, using informed professional judgement, the MS/MSD results may be used in conjunction with other QC criteria to determine the need for qualification of the data.

5.0 Blanks (Form IV)

	YES	NO	N/A
5. s the Method Blank Summary (Form IV) ·esent?	[✓]	___	___
5.2 ·quency of Analysis: for the analysis VOA TCL compounds, has a reagent/method ·k been analyzed for each SDG or every ·amples of similar matrix (low water, . oil, medium soil), whichever is more : ·ent?	[✓]	___	___

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	YES	NO	N/A
5.3 Has a VOA method/instrument blank been analyzed at least once every twelve hours for each concentration level and GC/MS system used?	[/]	___	___

ACTION: If any method blank data are missing, call lab for explanation/ resubmittal. If method blank data are not available, reject (R) all associated positive data. However, using professional judgement, the data reviewer may substitute field blank or trip blank data for missing method blank data.

5.4 Chromatography: review the blank raw data - chromatograms (RICs), quant reports or data system printouts and spectra.

	YES	NO	N/A
Is the chromatographic performance (baseline stability) for each instrument acceptable for VOAs?	[/]	___	___

ACTION: Use professional judgement to determine the effect on the data.

6.0 Contamination

NOTE: "Water blanks", "drill blanks", and distilled water blanks" are validated like any other sample, and are not used to qualify data. Do not confuse them with the other QC blanks discussed below.

	YES	NO	N/A
6.. Do any method/instrument/reagent blanks have positive results (TCL and/or TIC) for VOAs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for % moisture when necessary.	/	[ ]	___
6.2 Do any field/trip/rinse blanks have positive results (TCL and/or TIC)?	___	[ ]	/

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

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YES NO N/A

NOTE: All field blank results associated to a particular group of samples (may exceed one per case) must be used to qualify data. Trip blanks are used to qualify only those samples with which they were shipped and are not required for non-aqueous matrices. Blanks may not be qualified because of contamination in another blank. Field Blanks & Trip Blanks must be qualified for system monitoring compound, instrument performance criteria, spectral or calibration QC problems.

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks. If any blanks are grossly contaminated, all associated data should be qualified as unusable (R).

	Sample conc > CRQL but < 10x blank value	Sample conc < CRQL & <10x blank value	Sample conc > CRQL & >10x blank value
Methylene Chloride Acetone Toluene 2-Butanone	Flag sample result with a "U:	Report CRQL & qualify "U"	No qualification is needed

	Sample conc > CRQL but < 5x blank	Sample conc < CRQL & is < 5x blank value	Sample conc > CRQL value & > 5x blank value
Other Contam-inants	Flag sample result with a "U"	Report CRQL & qualify "U"	No qualification is needed

NOTE: A[illegible]tes qualified "U" for blank contamination are st[illegible] considered as "hits" when qualifying for ca[illegible]ation criteria.

	YES	NO	N/A
ACTION: For TIC compounds, if the concentration in the sample is less than five times the concentration in the most contaminated associated blank, flag the sample data "R" (unusable).			
6.3 Are there field/rinse/equipment blanks associated with every sample?	[ ]	___	✓
ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.			
7.0 GC/MS Instrument Performance Check (Form V)			
7.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for Bromofluorobenzene (BFB)?	[✓]	___	___
7.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?	[✓]	___	___
7.3 Has an instrument performance compound been analyzed for every twelve hours of sample analysis per instrument?	[✓]	___	___

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YES NO N/A

ACTION: List date, time, instrument ID, and sample analysis for which no associated GC/MS tuning data are available.

DATE	TIME	INSTRUMENT	SAMPLE NUMBERS

ACTION: If lab cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

7.4 Have the ion abundances been normalized to m/z 95? [✓] ___ ___

ACTION: If mass assignment is in error, qualify all associated data as unusable (R).

7.5 Have the ion abundance criteria been met for each instrument used? [✓] ___ ___

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not met, the Region II TPO must be notified.

7.6 e there any transcription/calculation errors :ween mass lists and Form Vs? (Check at least t values but if errors are found, check m. ?.) ___ [✓] ___

	YES	NO	N/A
7.7 Have the appropriate number of significant figures (~~two~~ three) been reported?	✓	___	___
ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document effect in data assessments.			
7.8 Are the spectra of the mass calibration compound acceptable?	✓	___	___
ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.			

8.0 Target Compound List (TCL) Analytes

	YES	NO	N/A
8.1 Are the Organic Analysis Data Sheets (Form I VOA) present with required header information on each page, for each of the following:			
a. Samples and/or fractions as appropriate	✓	___	___
b. Matrix spikes and matrix spike duplicates	✓	___	___
c. Blanks	✓	___	___
8.2 Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?			
a. Samples and/or fractions as appropriate	✓	___	___
Matrix spikes and matrix spike duplicates (Mass spectra not required)	✓	___	___
c Blanks	✓	___	___

ACTION: If any data are missing, take action specified in 3.2 above.

		YES	NO	N/A
8.3	Are the response factors shown in the Quant Report?	[✓]	___	___
8.4	Is chromatographic performance acceptable with respect to:			
	Baseline stability?	[✓]	___	___
	Resolution?	[✓]	___	___
	Peak shape?	[✓]	___	___
	Full-scale graph (attenuation)?	[✓]	___	___
	Other: ________________	[✓]	___	___

ACTION: Use professional judgement to determine the acceptability of the data.

8.5	Are the lab-generated standard mass spectra of the identified VOA compounds present for each sample?	[✓]	___	___

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If lab does not generate their own standard spectra, make note in "Contract Problems/Non-compliance".

8.	Is the RRT of each reported compound within).06 RRT units of the standard RRT in the -ontinuing calibration?	[✓]	___	___
8.7	e all ions present in the standard mass ectrum at a relative intensity greater n 10% also present in the sample mass ctrum?	[✓]	___	___

	YES	NO	N/A
8.8 Do sample and standard relative ion intensities agree within 20%?	[✓]	___	___

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R), flagged "N" (presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in 8.6, 8.7, and 8.8.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

9.0 Tentatively Identified Compounds (TIC)

	YES	NO	N/A
9.1 Are all Tentatively Identified Compound Forms (Form I Part B) present; and do listed TICs include scan number or retention time, estimated concentration and "JN" qualifier?	[ ]	___	✓
Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:			
Samples and/or fractions as appropriate	[ ]	___	✓
Blanks	[ ]	___	✓

ION: If any TIC data are missing, take action specified in 3.2 above.

A N: Add "JN" qualifier if missing.

	YES	NO	N/A
9.3 Are any TCL compounds (from any fraction) listed as TIC compounds (example: 1,2-dimethylbenzene is xylene- a VOA TCL analyte - and should not be reported as a TIC)?		[ ]	✓

ACTION: Flag with "R" any TCL compound listed as a TIC.

	YES	NO	N/A
9.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?	[ ]		✓
9.5 Do TIC and "best match" standard relative ion intensities agree within 20%?	[ ]		✓

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate.

Also, when a compound is not found in any blank, but is detected in a sample and is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable (R). (i.e. Common Lab Contaminants: CO_2 (M/E 44), Siloxanes (M/E 73) Hexane, Aldol Condensation Products, Solvent Preservatives, and related by products - see Functional Guidelines for more guidance).

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	YES	NO	N/A
10.0 <u>Compound Quantitation and Reported Detection Limits</u>			
10.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and RRF were used to calculate Form I result. Were any errors found?	___	[✓]	___
10.2 Are the CRQLs adjusted to reflect sample dilutions and, for soils, sample moisture?	[✓]	___	___

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and note errors under "Conclusions".

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQL data from the diluted sample analysis). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and its associated value on the original Form I and substituting the data from the analysis of the diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's that should not be used, including any in the summary package.

	YES	NO	N/A
11.0 <u>Standards Data (GC/MS)</u>			
11.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant. Reports) present for initial and continuing calibration?	[✓]	___	___

ACTION: If any calibration standard data are missing, take action specified in 3.2 above.

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	YES	NO	N/A

12.0 GC/MS Initial Calibration (Form VI)

	YES	NO	N/A
12.1 Are the Initial Calibration Forms (Form VI) present and complete for the volatile fraction at concentrations of 10, 20, 50, 100, 200 ug/l? Are there separate calibrations for low water/med soils and low soil samples?	[✓]	___	___

ACTION: If any calibration standard forms are missing, take action specified in 3.2 above.

	YES	NO	N/A
12.2 Were all low level soil standards, blanks and samples analyzed by heated purge?	[✓]	___	___

ACTION: If low level soil samples were not heated during purge, qualify positive hits "J" and non-detects "R".

	YES	NO	N/A
12.3 Are response factors stable for VOA's over the concentration range of the calibration (%Relative Standard Deviation (%RSD) 20)? less than maximum %RSD	[✓]	___	___

ACTION: Circle all outliers in red.

	YES	NO	N/A
12.4 Are the RRFs above the minimum RRFs?	[✓]	___	___

Action: Circle all outliers in red.

	YES	NO	N/A
12.5 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or %RSD? (Check at least 2 values, but if errors are found, check more.)	___	[✓]	___

13.0 GC/MS Continuing Calibration (Form VII)

	YES	NO	N/A
13.1 Are the Continuing Calibration Forms (Form VII) present and complete for the volatile fraction?	[✓]	___	___
13.2 Has a continuing calibration standard been analyzed for every twelve hours of sample analysis per instrument?	[✓]	___	___

ACTION: List below all sample analyses that were not within twelve hours of the previous continuing calibration analysis.

___

___

___

ACTION: If any forms are missing or no continuing calibration standard has been analyzed within twelve hours of every sample analysis, call lab for explanation/resubmittal. If continuing calibration data are not available, flag all associated sample data as unusable ("R").

	YES	NO	N/A
13.3 Do any volatile compounds have a % Difference (% D) between the initial and continuing RRF which exceeds the 25 criteria?	___	[✓]	___

ACTION: Circle all outliers in red.

	YES	NO	N/A
13.4 Do any volatile compounds have a RRF less than the minimum RRF? ACTION: Circle all outliers in red.	✓		
13.5 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or %difference (%D) between initial and continuing RRFs? (Check at least two values but if errors are found, check more.) ACTION: Circle errors in red. ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and note errors under "Conclusions".		✓	

14.0 Internal Standard (Form VIII)

	YES	NO	N/A
14.1 Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to + 100%) for each continuing calibration?	✓		

ACTION: List all the outliers below.

Sample #	Internal Std	Area	Lower Limit	Upper Limit

(Attach additional sheets if necessary.)

YES NO N/A

ACTION: 1. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results quantitated with this internal standard.

2. Non-detects associated with IS area counts > 100% should not be qualified.

3. If IS area is below the lower limit (< 50%), qualify all associated non-detects (U values) "J". If extremely low area counts are reported, (< 25%) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable ("R").

14.2 Are the retention times of the internal standards within 30 seconds of the associated calibration standard? [✓] ___ ___

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for VOA analysis? [ ] ___ ✓

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between duplicate results must be addressed in the reviewer narrative. However, if large differences exist, identification of field duplicates should be confirmed by contacting the sampler.

Appendix F

Data Validation Summary
Method 8270
April 1995 Sampling

Semivolatile Organics Data Validation Summary
BCF Oil Refining
Brooklyn, New York
Analytical Laboratory: Northeast Analytical, Inc.
Sample Delivery Group 042095REI

Analytical results for one (1) oil sample with matrix QC from BCF Oil Refining were reviewed to evaluate the data quality. Data were assessed in accordance with criteria from the EPA Region II document CLP Organics Review and Preliminary Review (SOP No. HW-6, Revision #8, January 1992), where applicable, and the New York State Department of Environmental Conservation Analytical Services Protocol (December 1991) Category B Deliverables for EPA Method 8270 analysis of semivolatile organic compounds. This validation pertains to the following samples collected by Rust Environment & Infrastructure and CH2M Hill personnel on April 18, 1995.

TK-11,15,23 TK-11,15,23 MS TK-11,15,23 MSD

The following items/criteria applicable to the above-listed samples were reviewed:

- Deliverable Requirements
- Case Narrative
- Holding Times and Sample Preparation
- Surrogate Recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Control Sample (LCS) Data
- Blank Summary and Data
- GC/MS Instrument Performance Check
- Target Compound Identification/Quantitation
- Quantitation Reports and Mass Spectral Data
- Initial and Continuing Calibration Data
- Internal Standard Areas and Retention Times

The above items were in compliance with applicable QC criteria with the exception of the items discussed in the following text. The data have been validated according to the above procedures and qualified as described in the following text.

Deliverable Requirements

Sample TK-11,15,23 was analyzed twice, once undiluted and then at a ten fold dilution due to high concentrations of 2-methylnaphthalene. EPA validation guidelines requires that the sample result for each compound be reported form the least diluted sample analysis provided that the compound result is not above the linear range of the calibration. Therefore, all results with the exception of the methylnaphthalene was reported from the original analysis of TK-11,15,23. The methylnaphthalene result was reported from the 10X dilution, and all unused results on the Semivolatile Organic Analysis Data Sheets have been crossed out to avoid confusion.

Holding Times and Sample Preparation

The laboratory indicated that the cooler containing these samples arrived at the laboratory with an internal temperature of 9°C, which is outside of the range specified of 2°C to 6°C specified in the ASP. This slightly elevated temperature is not considered to be significant, however, and no data have been qualified based upon this nonconformance. Please note that positive semivolatile results were obtained for the samples, although the slightly elevated temperature may indicate a potential low bias.

Internal Standard Areas and Retention Times

The internal standard perylene-d12 exhibited an area for sample TK-11,15,23 (10X dilution) that exceeded the QC limit of 200% of the perylene-d12 area of the daily calibration standard. The perylene-d12 area was 205,395 and the upper QC limit was 196,400. No data have been qualified based upon this nonconformance, however, since the perylene-d12 area from the original analysis of sample TK-11,15,23 was within QC limits and all sample results associated with this particular internal standard have been reported from the original analysis.

The laboratory's Case Narrative states that matrix interference was the cause for the perylene-d12 area to exceed QC limits. The validator does not agree with this statement since the original undiluted analysis of samples TK-11,15,23, TK-11,15,23 MS and TK-11,15,23 MSD exhibited areas for each of the internal standards that were within QC limits. Please note that this has no effect on the results reported and does not require any further action on the part of the laboratory or the validator.

Summary

In summary, based on 64 sample data points, none of which were qualified as estimated, and none qualified as unusable, the usability of this data package is 100%.

Please note that the original data validation summary for this package was reviewed by Mr. Timothy J. Fahrenkopf on July 31, 1995 and that this data validation summary is based upon the original data validation performed by Mr. Fahrenkopf as well as my own review of the data.

Anthony M. Nocé	6 AUG 96
Reviewed By	Date
Ed Fahrenkopf	8-6-96
Approved By	Date

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-11,15,23
Matrix:	OIL	LAB SAMPLE ID:	952311RIN
Sample wt/vol	1.00 (g)	LAB FILE ID:	M2050311
Level:	MED	DATE RECEIVED:	04/20/95
% Moisture:		DATE EXTRACTED:	04/28/95
GC Column:	DB-5	DATE ANALYZED:	05/03/95
Conc. Extract Volume:	10000 (uL)	DILUTION FACTOR:	1
Injection Volume:	2 (uL)	Soil Aliquot Volume:	(uL)
Method:	SW-846 8270 BNA	NEA Form ID: S:\FORMS\CATB\8270\CLP-1B.WK4	
		NEA File ID: S:\CERT\052495MG.REI	TJF (7/31/95)
		CONCENTRATION UNITS:	

CAS NO.	COMPOUND	(ug/kg)	Q
83-32-9	ACENAPHTHENE	97000	J
208-96-8	ACENAPHTHYLENE	100000	U
120-12-7	ANTHRACENE	43000	J
56-55-3	BENZO(a)ANTHRACENE	24000	J
50-32-8	BENZO(a)PYRENE	100000	U
205-99-2	BENZO(b)FLUORANTHENE	100000	U
191-24-2	BENZO(g,h,i)PERYLENE	100000	U
207-08-9	BENZO(k)FLUORANTHENE	100000	U
105-55-3	4-BROMOPHENYL-PHENYLETHER	100000	U
85-68-7	BUTYLBENZYLPHTHALATE	100000	U
96-74-8	CARBAZOLE	100000	U
59-50-7	4-CHLORO-3-METHYLPHENOL	100000	U
106-47-8	4-CHLOROANALINE	100000	U
111-91-1	BIS (2-CHLOROETHOXY) METHANE	100000	U
111-44-4	BIS (2-CHLOROETHYL) ETHER	100000	U
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	100000	U
91-58-7	2-CHLORONAPHTHALENE	100000	U
95-57-8	2-CHLOROPHENOL	100000	U
7005-72-3	4-CHLOROPHENYL-PHENYLETHER	100000	U
218-01-9	CHRYSENE	52000	J
132-64-9	DIBENZOFURAN	100000	U
53-70-3	DIBENZ(a,h)ANTHRACENE	100000	U
95-50-1	1,2-DICHLOROBENZENE	100000	U
541-73-1	1,3-DICHLOROBENZENE	100000	U
106-46-7	1,4-DICHLOROBENZENE	100000	U
91-94-1	3,3'-DICHLOROBENZIDINE	100000	U
120-83-2	2,4-DICHLOROPHENOL	100000	U
84-66-2	DIETHYLPHTHALATE	100000	U
105-67-9	2,4-DIMETHYLPHENOL	100000	U
131-11-3	DIMETHYLPHTHALATE	100000	U
84-74-2	DI-N-BUTYLPHTHALATE	100000	U
121-14-2	4,6-DINITRO-2-METHYLPHENOL	100000	U

FORM I-CLP-SV-1 (NEA)

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-11,15,23
Matrix:	OIL	LAB SAMPLE ID:	952311RIN
Sample wt/vol	1.00 (g)	LAB FILE ID:	M2050311
Level:	MED	DATE RECEIVED:	04/20/95
% Moisture:		DATE EXTRACTED:	04/28/95
GC Column:	DB5	DATE ANALYZED:	05/03/95
Conc. Extract Volume:	10000 (uL)	DILUTION FACTOR:	1
Injection Volume:	2 (uL)	Soil Aliquot Volume:	(uL)
Method:	SW-846 8270 BNA	NEA Form ID: S:\FORMS\CATB\CLP-1C.WK4	
		NEA File ID: S:\CERT\052405MM.REI	

TJF (8/4/95)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/kg)	Q
51-28-5	2,4-DINITROPHENOL	100000	U
121-14-2	2,4-DINITROTOLUENE	100000	U
606-20-2	2,6-DINITROTOLUENE	100000	U
117-84-0	DI-N-OCTYLPHTHALATE	100000	U
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	120000	
206-44-0	FLUORANTHENE	100000	U
86-73-7	FLUORENE	100000	
118-74-1	HEXACHLOROBENZENE	100000	U
87-68-3	HEXACHLOROBUTADIENE	100000	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	100000	U
67-72-1	HEXACHLOROETHANE	100000	U
139-39-5	INDENO(1,2,3-cd)PYRENE	100000	U
78-59-1	ISOPHORONE	100000	U
91-57-6	2-METHYLNAPHTHALENE	2000000 ~~1700000~~	~~E~~ D
95-48-7	2-METHYLPHENOL	100000	U
106-44-5	4-METHYLPHENOL	100000	U
91-20-3	NAPHTHALENE	510000	
88-74-4	2-NITROANILINE	100000	U
99-09-2	3-NITROANILINE	100000	U
100-01-6	4-NITROANILINE	100000	U
98-95-3	NITROBENZENE	100000	U
88-75-5	2-NITROPHENOL	100000	U
100-02-7	4-NITROPHENOL	100000	U
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	100000	U
86-30-6	N-NITROSODIPHENYLAMINE	100000	U
87-86-5	PENTACHLOROPHENOL	100000	U
85-01-8	PHENANTHRENE	310000	
108-95-2	PHENOL	100000	U
129-00-0	PYRENE	89000	J
120-82-1	1,2,4-TRICHLOROBENZENE	220000	
95-95-4	2,4,5- TRICHLOROPHENOL	100000	U
88-06-2	2,4,6- TRICHLOROPHENOL	100000	U

amm 2AUG96

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	042095REI
ELAP ID No.:	11078		CLIENT ID:	TK-11,15,23
Matrix:	OIL		LAB SAMPLE ID:	952311
Sample wt/vol	1.00	(g)	LAB FILE ID:	M2050207
Level:	MED		DATE RECEIVED:	04/20/95
% Moisture:			DATE EXTRACTED:	04/28/95
GC Column:	DB-5		DATE ANALYZED:	05/02/95
Conc. Extract Volume:	10000	(uL)	DILUTION FACTOR:	10
Injection Volume:	2	(uL)	Soil Aliquot Volume:	(uL)
Method:	SW-846 8270 BNA		NEA Form ID: S:\FORMS\CATB\8270\CLP-1B.WK4	
			NEA File ID: S:\CERT\052495MF.REI	
			CONCENTRATION UNITS:	

7/31/95
TJF

CAS NO.	COMPOUND	(ug/kg)	Q
~~83-32-9~~	~~ACENAPHTHENE~~	~~120000~~	~~J~~
208-96-8	ACENAPHTHYLENE	1000000	U
120-12-7	ANTHRACENE	1000000	U
56-55-3	BENZO(a)ANTHRACENE	1000000	U
50-32-8	BENZO(a)PYRENE	1000000	U
205-99-2	BENZO(b)FLUORANTHENE	1000000	U
191-24-2	BENZO(g,h,i)PERYLENE	1000000	U
207-08-9	BENZO(k)FLUORANTHENE	1000000	U
105-55-3	4-BROMOPHENYL-PHENYLETHER	1000000	U
85-68-7	BUTYLBENZYLPHTHALATE	1000000	U
96-74-8	CARBAZOLE	1000000	U
59-50-7	4-CHLORO-3-METHYLPHENOL	1000000	U
106-47-8	4-CHLOROANALINE	1000000	U
111-91-1	BIS (2-CHLOROETHOXY) METHANE	1000000	U
111-44-4	BIS (2-CHLOROETHYL) ETHER	1000000	U
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	1000000	U
91-58-7	2-CHLORONAPHTHALENE	1000000	U
95-57-8	2-CHLOROPHENOL	1000000	U
7005-72-3	4-CHLOROPHENYL-PHENYLETHER	1000000	U
218-01-9	CHRYSENE	1000000	U
132-64-9	DIBENZOFURAN	1000000	U
53-70-3	DIBENZ(a,h)ANTHRACENE	1000000	U
95-50-1	1,2-DICHLOROBENZENE	1000000	U
541-73-1	1,3-DICHLOROBENZENE	1000000	U
106-46-7	1,4-DICHLOROBENZENE	1000000	U
91-94-1	3,3'-DICHLOROBENZIDINE	1000000	U
120-83-2	2,4-DICHLOROPHENOL	1000000	U
84-66-2	DIETHYLPHTHALATE	1000000	U
105-67-9	2,4-DIMETHYLPHENOL	1000000	U
131-11-3	DIMETHYLPHTHALATE	1000000	U
84-74-2	DI-N-BUTYLPHTHALATE	1000000	U
~~121-14-2~~	~~4,6-DINITRO-2-METHYLPHENOL~~	~~1000000~~	~~U~~

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	042095REI
ELAP ID No.:	11078		CLIENT ID:	TK-11,15,23
Matrix:	OIL		LAB SAMPLE ID:	952311
Sample wt/vol	1.00	(g)	LAB FILE ID:	M2050207
Level:	MED		DATE RECEIVED:	04/20/95
% Moisture:			DATE EXTRACTED:	04/28/95
GC Column:	DB5		DATE ANALYZED:	05/02/95
Conc. Extract Volume:	10000	(uL)	DILUTION FACTOR:	10
Injection Volume:	2	(uL)	Soil Aliquot Volume:	(uL)
Method:	SW-846 8270 BNA		NEA Form ID: S:\FORMS\CATB\CLP-1C.WK4	
			NEA File ID: S:\CERT\052495ML.REI	
			CONCENTRATION UNITS:	

TJF (8/11/01)

CAS NO.	COMPOUND	(ug/kg)	Q
51-28-5	~~2,4-DINITROPHENOL~~	~~1000000~~	~~U~~
121-14-2	~~2,4-DINITROTOLUENE~~	~~1000000~~	~~U~~
606-20-2	2,6-~~DINITROTOLUENE~~	~~1000000~~	~~U~~
117-84-0	DI-N-~~OCTYLPHTHALATE~~	~~1000000~~	~~U~~
117-81-7	~~BIS(2-ETHYLHEXYL)PHTHALATE~~	~~110000~~	~~J~~
206-44-0	~~FLUORANTHENE~~	~~1000000~~	~~U~~
86-73-7	~~FLUORENE~~	~~130000~~	~~J~~
118-74-1	~~HEXACHLOROBENZENE~~	~~1000000~~	~~U~~
87-68-3	~~HEXACHLOROBUTADIENE~~	~~1000000~~	~~U~~
77-47-4	~~HEXACHLOROCYCLOPENTADIENE~~	~~1000000~~	~~U~~
67-72-1	~~HEXACHLOROETHANE~~	~~1000000~~	~~U~~
139-39-5	~~INDENO(1,2,3-cd)PYRENE~~	~~1000000~~	~~U~~
78-59-1	~~ISOPHORONE~~	~~1000000~~	~~U~~
91-57-6	2-METHYLNAPHTHALENE	2000000	D
~~95-48-7~~	~~2-METHYLPHENOL~~	~~1000000~~	~~U~~
106-44-5	~~4-METHYLPHENOL~~	~~1000000~~	~~U~~
91-20-3	~~NAPHTHALENE~~	~~610000~~	~~J~~
88-74-4	~~2-NITROANILINE~~	~~1000000~~	~~U~~
99-09-2	~~3-NITROANILINE~~	~~1000000~~	~~U~~
100-01-6	~~4-NITROANILINE~~	~~1000000~~	~~U~~
98-95-3	~~NITROBENZENE~~	~~1000000~~	~~U~~
88-75-5	~~2-NITROPHENOL~~	~~1000000~~	~~U~~
100-02-7	~~4-NITROPHENOL~~	~~1000000~~	~~U~~
621-64-7	~~N-NITROSO-DI-N-PROPYLAMINE~~	~~1000000~~	~~U~~
86-30-6	~~N-NITROSODIPHENYLAMINE~~	~~1000000~~	~~U~~
87-86-5	~~PENTACHLOROPHENOL~~	~~1000000~~	~~U~~
85-01-8	~~PHENANTHRENE~~	~~330000~~	~~J~~
108-95-2	~~PHENOL~~	~~1000000~~	~~U~~
129-00-0	~~PYRENE~~	~~1000000~~	~~U~~
120-82-1	~~1,2,4-TRICHLOROBENZENE~~	~~230000~~	~~J~~
95-95-4	~~2,4,5-TRICHLOROPHENOL~~	~~1000000~~	~~U~~
88-06-2	~~2,4,6-TRICHLOROPHENOL~~	~~1000000~~	~~U~~

FORM I-CLP-SV-2 (NEA)

Organic Data Qualifiers

U - The compound was analyzed for but not detected at or above the quantitation limit indicated.

J - The compound was analyzed for and determined to be present in the sample because the mass spectrum of the compound meets the identification criteria of the method. The concentration reported is an estimated value, less than the practical quantitation limit for the sample.

B - The compound is also found in an associated blank.

V - The reported value is considered estimated due to variance from quality control criteria

S - The reported value is suspected to be due to laboratory contamination.

R - The reported value is unusable and rejected due to variance from quality control criteria.

D - The reported value is taken from the analysis of a diluted sample.

E - The reported value exceeds the calibration range of the instrument.

N - Indicates presumptive evidence for compound identification.

A - Indicates that the compound is an aldol condensation product.

C - Compound identification has been qualitatively confirmed by GC/MS.

P - Indicates that the percent difference between the results from the two analytical columns is greater than 25%.

Rust Environmental
12 Metro . ark Road
Albany, N.Y. 12205 (518) 458-1313

RUST

Client Name: Stillman Friedman & Shaw	RUST Contact: Frank Williams 435-7236
Project No.: 38808.000	Laboratory Contact: Bob Wagner
Site Location: B.C.F. Oil Refining	Lab Identification: Northeast Analytical
	Date Report Required:
Sampler: CH2M Hill / Frank Williams	

Sample Identification	Date	Time	Sample Matrix	Collection Vessel	Lowering Device	# Sample Containers	NEA #	Preserv.	Comp. or Grab	Comment
TK-11,15,23	4/18/95	16:55	oil	bailer	nylon rope	1	952	311	C	PCBs SW846 8080 *
										VOAs SW846 8260 *
										BN/Acids SW846 8270 *
TK-17,23,26	4/18/95	16:40	oil	bailer	nylon rope	1	952	312	C	PCBs SW846 8080 *
TK-12,15,23	"	17:10	"	"	"	1	952	313	C	PCBs SW846 8080 *

* See Instructions on Shee

	Name	Affiliation	Date	Time		Name	Date	Ti
Relinquished by:	Frank Williams	Rust	4/20/95	16:35	Received by Laboratory:	[illegible]	4/20/95	1[illegible]
Received by:	Kevin Slater	Rust	4/20/95	16:35	Samples Intact & Properly Preserved:	Yes or		
Relinquished by:	Kevin Slater	Rust	4/20/95	1720	Laboratory Comments:	COOLER 9°C		
Received by:								

BCF 1.4 0060

000080

YES NO N/A

PART B: BNA ANALYSES

1.0 Traffic Reports and Laboratory Narrative

1.1 Are the Traffic Report Forms present for all samples? [✓] ___ ___

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the Traffic Reports or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special notations affecting the quality of the data? ___ [✓] ___

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be flagged as estimated ("J"). If a soil sample, other than TCLP, contains more than 90% water, all data should be qualified as unusable (R).

ACTION: If samples were not iced upon receipt at the laboratory, flag all positive results "J" and all non-detects "UJ".

2.0 Holding Times

2.1 Have any BNA technical holding times, determined from date of collection to date of extraction, been exceeded? ___ [✓] ___

Continuous liquid-liquid extraction and concentration of water samples, or sonication or Soxhlet procedures for extraction and concentration of soil/sediment samples for semivolatile analyses, shall be started within FIVE (5) days and completed within SEVEN (7) days of VTSR, (Verified Time of Sample Receipt). If a reextraction and reanalysis must be performed (e.g. surrogate recoveries outside of acceptance criteria) the reextraction must be started within TEN (10) days and completed within TWELVE (12) days of VTSR. The need for the reanalysis must be documented in the data package.

NOTE: Separatory funnel extraction procedures are not permitted.

Extracts of either water or soil/sediment samples must be analyzed within 40 days of VTSR.

YES NO N/A

Table of Holding Time Violations

Sample	Sample Matrix	Date Sampled	Date Lab Received	Date Extracted (See Traffic Report)	Date Analyzed

ACTION: If technical holding times are exceeded, flag all positive results as estimated ("J") and sample quantitation limits as estimated ("UJ"), and document in the narrative that holding times were exceeded.

If analyses were done more than 14 days beyond holding time, either on the first analysis or upon reanalysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all results should be qualified "J", but the reviewer may determine that non-detect data are unusable ("R"). If holding times are exceeded by more than 28 days, all non detect data are unusable (R).

3.0 Surrogate Recovery (Form II)

3.1 Are the BNA Surrogate Recovery Summaries (Form II) present for each of the following matrices:

a. Low ~~Water~~ O·l [✓] ___ ___

b. Low Soil [ ] ___ ✓

c. Med Soil [ ] ___ ✓

	YES	NO	N/A
3.2 Are all the BNA samples listed on the appropriate Surrogate Recovery Summaries for each of the following matrices:			
a. Low ~~Water~~ oil	[✓]	___	___
b. Low Soil	[ ]	___	✓
c. Med Soil	[ ]	___	✓

ACTION: Call lab for explanation/resubmittals. If missing deliverables are unavailable, document effect in data assessments.

	YES	NO	N/A
3.3 Were outliers marked correctly with an asterisk?	[✓]	___	___

ACTION: Circle all outliers in red.

	YES	NO	N/A
3.4 Were two or more base-neutral OR acid surrogate recoveries out of specification for any sample or method blank?	[✓]	___	___
If yes, were samples reanalyzed?	[✓]	___	___
Were method blanks reanalyzed?	[✓]	___	___

ACTION: If all BNA surrogate recoveries are > 10% but two within the base-neutral or acid fraction do not meet SOW specifications, <u>for the affected fraction only (i.e. base-neutral or acid compounds)</u>:

1. Flag all positive results as estimated ("J").
2. Flag all non-detects as estimated detection limits ("UJ") when recoveries are less than the lower acceptance limit.
3. If recoveries are greater than the upper acceptance limit, do not qualify non-detects.

YES NO N/A

If any base-neutral or acid surrogate has a recovery of <10%:

1. Positive results for the fraction with <10% surrogate recovery are qualified with "J".

2. Non-detects for that fraction should be qualified as unusable (R).

Professional judgement should be used to qualify data that have method blank surrogate recoveries out of specification in both original and reanalyses. Check the internal standard areas.

3.5 Are there any transcription/calculation errors between raw data and Form II? ___ [✓] ___

ACTION: If large errors exist, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

4.0 Matrix Spikes (Form III)

4.1 Is the Matrix Spike/Matrix Spike Duplicate Recovery Form (Form III) present? [✓] ___ ___

4.2 Were matrix spikes analyzed at the required frequency for each of the following matrices:

a. Low Water 0.1 [✓] ___ ___

b. Low Soil [ ] ___ ✓

c. Med Soil [ ] ___ ✓

ACTION: If any matrix spike data are missing, take the action specified in 3.2 above.

	YES	NO	N/A

4.3 How many BNA spike recoveries are outside QC limits?

Water 0:1 — **Soils**

0 out of 22 — NA out of 22

4.4 How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?

Water 0:1 — **Soils**

0 out of 11 — NA out of 11

ACTION: No action is taken on MS/MSD data alone. However, using informed professional judgement, the data reviewer may use the matrix spike and matrix spike duplicate results in conjunction with other QC criteria and determine the need for some qualification of the data.

5.0 Blanks (Form IV)

	YES	NO	N/A
5.1 Is the Method Blank Summary (Form IV) present?	[✓]	___	___
5.2 Frequency of Analysis: Has a reagent/method blank analysis been reported per 20 samples of similar matrix, or concentration level, and for each extraction batch?	[✓]	___	___
5.3 Has a BNA method blank been analyzed for each GC/MS system used? (See SOW p. D - 59/SV, Section 8.7)	[✓]	___	___

ACTION: If any method blank data are missing, call lab for explanation/resubmittal. If not available, use professional judgement to determine if the associated sample data should be qualified.

YES NO N/A

5.4 Chromatography: review the blank raw data - chromatograms (RICs), quant reports or data system printouts and spectra.

Is the chromatographic performance (baseline stability) for each instrument acceptable for BNAs? [✓] ___ ___

ACTION: Use professional judgement to determine the effect on the data.

6.0 Contamination

Note: "Water blanks", "drill blanks" and "distilled water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

6.1 Do any method/instrument/reagent blanks have positive results (TCL and/or TIC) for BNAs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample dilution factor and corrected for % moisture where necessary. ___ [✓] ___

6.2 Do any field/rinse/ blanks have positive BNA results (TCL and/or TIC)? ___ [ ] ✓

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

Note: All field blank results associated to a particular group of samples (may exceed one per case) must be used to qualify data. Blanks may not be qualified because of contamination in another blank . Field Blanks must be qualified for surrogate, spectral, instrument performance or calibration QC problems.

YES NO N/A

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks. If gross contamination exists, all data in the associated samples should be qualified as unusable (R).

Sample conc > CRQL but < 10x blank	Sample conc <CRQL & is< 10x blank value	Sample conc > CRQL value & >10x blank
Common Phthalate Esters		
Flag sample result with a "U";	Report CRQL & qualify "U"	No qualification is needed

Sample conc > CRQL but < 5x blank	Sample conc < CRQL & is < 5x blank value	Sample conc > CRQL value & >5 blank value
Other Contaminants		
Flag sample result with a "U";	Report CRQL & qualify "U"	No qualification is needed

NOTE: Analytes qualified "U" for blank contamination are still considered as "hits" when qualifying for calibration criteria.

ACTION: For TIC compounds, if the concentration in the sample is less than five times the concentration in the most contaminated associated blank, flag the sample data "R" (unusable).

6.3 Are there field/rinse/equipment blanks associated with every sample? [ ] ___ ✓

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

	YES	NO	N/A
7.0 GC/MS Instrument Performance Check			
7.1 Are the GC/MS Instrument Performance Check Forms (Form V) present for Decafluorotriphenylphosphine (DFTPP)?	✓		
7.2 Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the DFTPP provided for each twelve hour shift?	✓		
7.3 Has an instrument performance check solution been analyzed for every twelve hours of sample analysis per instrument?	✓		

ACTION: List date, time, instrument ID, and sample analyses for which no associated GC/MS tuning data are available.

DATE	TIME	INSTRUMENT	SAMPLE NUMBERS

ACTION: If lab cannot provide missing data, reject ("R") all data generated outside an acceptable twelve hour calibration interval.

ACTION: If mass assignment is in error, flag all associated sample data as unusable (R).

	YES	NO	N/A
7.4 Have the ion abundances been normalized to m/z 198?	✓		

YES NO N/A

7.5 Have the ion abundance criteria been met for each instrument used? [✓] ___ ___

ACTION: List all data which do not meet ion abundance criteria (attach a separate sheet).

ACTION: If ion abundance criteria are not me , the Region II TPO must be notified.

7.6 Are there any transcription/calculation errors between mass lists and Form Vs? (Check at least two values but if errors are found, check more.) ___ [✓] ___

7.7 Have the appropriate number of significant figures (three) been reported? [✓] ___ ___

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document effect in data assessments.

7.8 Are the spectra of the mass calibration compound acceptable? [✓] ___ ___

ACTION: Use professional judgement to determine whether associated data should be accepted, qualified, or rejected.

8.0 <u>Target Compound List (TCL) Analytes</u>

8.1 Are the Organic Analysis Data Sheets (Form I BNA) present with required header information on each page, for each of the following:

a. Samples and/or fractions as appropriate [✓] ___ ___

b. Matrix spikes and matrix spike duplicates [✓] ___ ___

c. Blanks [✓] ___ ___

	YES	NO	N/A
8.2 Has GPC cleanup been performed on all soil/ sediment sample extracts?	[✓]	___	___

ACTION: If data suggests that GPC was not performed, use professional judgement. Make note in "Contract Problems/Non-Compliance".

	YES	NO	N/A
8.3 Are the BNA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?			
a. Samples and/or fractions as appropriate	[✓]	___	___
b. Matrix spikes and matrix spike duplicates (Mass spectra not required)	[✓]	___	___
c. Blanks	[✓]	___	___

ACTION: If any data are missing, take action specified in 3.2 above.

	YES	NO	N/A
8.4 Are the response factors shown in the Quant Report?	[✓]	___	___
8.5 Is chromatographic performance acceptable with respect to:			
Baseline stability?	[✓]	___	___
Resolution?	[✓]	___	___
Peak shape?	[✓]	___	___
Full-scale graph (attenuation)?	[✓]	___	___
Other:______________________	[✓]	___	___

ACTION: Use professional judgement to determine the acceptability of the data.

YES NO N/A

8.6 Are the lab-generated standard mass spectra of identified BNA compounds present for each sample? ✓ ___ ___

ACTION: If any mass spectra are missing, take action specified in 3.2 above. If lab does not generate their own standard spectra, make note in "Contract Problems/ Non-compliance". If spectra are missing, reject all positive data.

8.7 Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration? ✓ ___ ___

8.8 Are all ions present in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum? ✓ ___ ___

8.9 Do sample and standard relative ion intensities agree within 20%? ✓ ___ ___

ACTION: Use professional judgement to determine acceptability of data. If it is determined that incorrect identifications were made, all such data should be rejected (R), flagged "N" (Presumptive evidence of the presence of the compound) or changed to not detected (U) at the calculated detection limit. In order to be positively identified, the data must comply with the criteria listed in 8.7, 8.8, and 8.9.

ACTION: When sample carry-over is a possibility, professional judgement should be used to determine if instrument cross-contamination has affected any positive compound identification.

9.0 <u>Tentatively Identified Compounds (TIC)</u>

9.1 Are all Tentatively Identified Compound Forms (Form I, Part B) present; and do listed TICs include scan number or retention time, estimated concentration and "JN" qualifier? ___ ___ ✓

	YES	NO	N/A
9.2 Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:			
a. Samples and/or fractions as appropriate	[ ]	___	✓
b. Blanks	[ ]	___	✓

ACTION: If any TIC data are missing, take action specified in 3.2 above.

ACTION: Add "JN" qualifier if missing.

	YES	NO	N/A
9.3 Are any TCL compounds (from any fraction) listed as TIC compounds (example: 1,2-dimethylbenzene is xylene a VOA TCL - and should not be reported as a TIC)?	___	[ ]	✓

ACTION: Flag with "R" any TCL compound listed as a TIC.

	YES	NO	N/A
9.4 Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?	[ ]	___	✓
9.5 Do TIC and "best match" standard relative ion intensities agree within 20%?	[ ]	___	✓

ACTION: Use professional judgement to determine acceptability of TIC identifications. If it is determined that an incorrect identification was made, change identification to "unknown" or to some less specific identification (example: "C3 substituted benzene") as appropriate. Also, when a compound is not found in any blank, but is a suspected artifact of a common laboratory contaminant, the result should be qualified as unusable (R).

YES NO N/A

10.0 Compound Quantitation and Reported Detection Limits

10.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Verify that the correct internal standard, quantitation ion, and RRF were used to calculate Form I result. Were any errors found? ___ [/] ___

10.2 Are the CRQLs adjusted to reflect sample dilutions and, for soils, sample moisture? [/] ___ ___

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQL data from the diluted sample analysis). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" and it's associated value on the original Form I and substituting the data from the analysis of the diluted sample. Specify which Form I is to be used, then draw a red " X" across the entire page of all Form I's that should not be used, including any in the summary package.

11.0 Standards Data (GC/MS)

11.1 Are the Reconstructed Ion Chromatograms, and data system printouts (Quant, Reports) present for initial and continuing calibration? [/] ___ ___

ACTION: If any calibration standard data are missing, take action specified in 3.2 above.

YES NO N/A

12.0 GC/MS Initial Calibration (Form VI)

12.1 Are the Initial Calibration Forms (Form VI) present and complete for the BNA fraction? [✓] ___ ___

ACTION: If any calibration standard forms are missing, take action specified in 3.2 above.

12.2 Are response factors stable for BNAs over the concentration range of the calibration? (% Relative standard deviation (%RSD) < 20.5%) for applicable standards a for more than 4 compounds. [✓] ___ ___

ACTION: Circle all outliers in red.

ACTION: If the % RSD is > 20.5% for more than 4 compounds qualify positive results for that analyte "J" and non-detects using professional judgement. When RSD > 90%, flag all non-detect results for that analyte R (unusable).

NOTE: Analytes previously qualified "U" due to blank contamination are still considered as "hits" when qualifying for calibration criteria.

12.3 Are more than 4 BNA compound RRFs > the minimum RRF required by the ASP? [✓] ___ ___

ACTION: Circle all outliers in red.

ACTION: If more than 4 RRFs are outside of QC criteria then
1. "R" all non-detects.
2. "J" all positive results.

12.4 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or % RSD? (Check at least two values but if errors are found, check more.) ___ [✓] ___

ACTION: Circle Errors in red.

YES NO N/A

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and note errors in data assessments.

13.0 GC/MS Continuing Calibration (Form VII)

13.1 Are the Continuing Calibration Forms (Form VII) present and complete for the BNA fraction? ✓ ___ ___

13.2 Has a continuing calibration standard been analyzed for every twelve hours of sample analysis per instrument? ✓ ___ ___

ACTION: List below all sample analyses that were not within twelve hours of a continuing calibration analysis for each instrument used.

____

____

____

ACTION: If any forms are missing or no continuing calibration standard has been analyzed within twelve hours of every sample analysis, call lab for explanation/resubmittal. If continuing calibration data are not available, flag all associated sample data as unusable ("R").

13.3 Do more than 4 semivolatile compounds have a % Difference (% D) between the initial and continuing RRF which exceeds the + 25.0% criteria? ___ ✓ ___

ACTION: Circle all outliers in red.

ACTION: If more than 4 compounds have a %D outside of QC limits Qualify both positive results and non-detects for the outlier compound(s) as estimated (J). When %D is above 90%, reject all non-detects for that analyte (R) unusable.

	YES	NO	N/A
13.4 Do more than 4 semivolatile compounds have a RRF less than the minimum QC criteria?	___	[✓]	___

ACTION: Circle all outliers in red.

ACTION: If more than 4 RRFs are below QC criteria, qualify as unusable (R) associated non-detects and "J" associated positive values.

	YES	NO	N/A
13.5 Are there any transcription/calculation errors in the reporting of average response factors (RRF) or % difference (%D) between initial and continuing RRFs? (Check at least two values but if errors are found, check more).	___	[✓]	___

ACTION: Circle errors in red.

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

14.0 Internal Standards (Form VIII)

	YES	NO	N/A
14.1 Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to + 100%) for each continuing calibration?	[ ]	✓	___

ACTION: List all the outliers below. SCC Report

Sample #	Internal Std	Area	Lower Limit	Upper Limit

(Attach additional sheets if necessary.)

ACTION: 1. If the internal standard area count is outside the upper or lower limit, flag with "J" all positive results and non-detects (U values) quantitated with this internal standard.

YES NO N/A

2. Non-detects associated with IS areas > 100% should not be qualified.

3. If the IS area is below the lower limit (<50%), qualify all associated non-detects (U-values) "J". If extremely low area counts are reported (<25%) or if performance exhibits a major abrupt drop off, flag all associated non-detects as unusable (R).

14.2 Are the retention times of the internal standards within 30 seconds of the associated calibration standard? [✓] ___ ___

ACTION: Professional judgement should be used to qualify data if the retention times differ by more than 30 seconds.

15.0 Field Duplicates

15.1 Were any field duplicates submitted for BNA analysis? [ ] ___ ✓

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, identification of field duplicates should be confirmed by contacting the sampler.

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-15,4,9
Matrix:	WATER,OIL	LAB SAMPLE ID:	952306A
Sample wt/vol	0.5832 (g)	LAB FILE ID:	952306A
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2100	DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	1
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID. S:\FORMS\CAT8\CLP-1D.WK4

NEA File ID: S:\CERT\052595NL.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	1.53	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	042095REI
ELAP ID No.:	11078		CLIENT ID:	TK-16,2.5,7
Matrix:	OIL,WATER,SED.		LAB SAMPLE ID:	952307
Sample wt/vol	0.5040	(g)	LAB FILE ID:	952307
% Moisture:			DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION		DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401		DATE ANALYZED:	05/10/95
Conc. Extract Volume:	25	(uL)	DILUTION FACTOR:	1
Injection Volume:	2.5	(uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)			

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MN.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	4.04	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-16,2.5,7
Matrix:	OIL,WATER,SED.	LAB SAMPLE ID:	952307A
Sample wt/vol	0.5040 (g)	LAB FILE ID:	952307A
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2100	DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	1
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NM.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	3.91	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-14,16,20
Matrix:	OIL	LAB SAMPLE ID:	952308
Sample wt/vol	0.4718 (g)	LAB FILE ID:	952308
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/26/95
GC Column:	SP-2250/2401	DATE ANALYZED:	05/10/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	10
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MO.REI

TJT-6/21/95)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	5.30	U
11104-28-2	Aroclor 1221	5.30	U
11141-16-5	Aroclor 1232	5.30	U
53469-21-9	Aroclor 1242	23.5	
12672-29-6	Aroclor 1248	5.30	U
11097-69-1	Aroclor 1254	5.30	U
11096-82-5	Aroclor 1260	174	

V

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-14,16,20
Matrix:	OIL	LAB SAMPLE ID:	952308A
Sample wt/vol	0.4718 (g)	LAB FILE ID:	952308A
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/26/95
GC Column:	SP-2100	DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	10
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NN.REI

TJF (6/21/95)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	5.30	U
11104-28-2	Aroclor 1221	5.30	U
11141-16-5	Aroclor 1232	5.30	U
53469-21-9	Aroclor 1242	24.9	
12672-29-6	Aroclor 1248	5.30	U
11097-69-1	Aroclor 1254	5.30	U
11096-82-5	Aroclor 1260	280	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-14,16,20MS
Matrix:	OIL	LAB SAMPLE ID:	952309
Sample wt/vol	0.6228 (g)	LAB FILE ID:	952309
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/26/95
GC Column:	SP-2250/2401	DATE ANALYZED:	05/10/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	100
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MT.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	50.0	U
11104-28-2	Aroclor 1221	50.0	U
11141-16-5	Aroclor 1232	50.0	U
53469-21-9	Aroclor 1242	50.0	U
12672-29-6	Aroclor 1248	50.0	U
11097-69-1	Aroclor 1254	1720	
11096-82-5	Aroclor 1260	50.0	U

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	042095REI
ELAP ID No.:	11078		CLIENT ID:	TK-14,16,20 MS
Matrix:	OIL		LAB SAMPLE ID:	952309A
Sample wt/vol	0.6082	(g)	LAB FILE ID:	952309A
% Moisture:			DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION		DATE EXTRACTED:	04/26/95
GC Column:	SP-2100		DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25	(uL)	DILUTION FACTOR:	100
Injection Volume:	2.5	(uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)			

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NT.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	50.0	U
11104-28-2	Aroclor 1221	50.0	U
11141-16-5	Aroclor 1232	50.0	U
53469-21-9	Aroclor 1242	50.0	U
12672-29-6	Aroclor 1248	50.0	U
11097-69-1	Aroclor 1254	1970	
11096-82-5	Aroclor 1260	50.0	U

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-14,16,20MSD
Matrix:	OIL	LAB SAMPLE ID:	952310
Sample wt/vol	0.7627 (g)	LAB FILE ID:	952310
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/26/95
GC Column:	SP-2250/2401	DATE ANALYZED:	05/10/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	100
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MU.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	50.0	U
11104-28-2	Aroclor 1221	50.0	U
11141-16-5	Aroclor 1232	50.0	U
53469-21-9	Aroclor 1242	50.0	U
12672-29-6	Aroclor 1248	50.0	U
11097-69-1	Aroclor 1254	1550	
11096-82-5	Aroclor 1260	50.0	U

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-14,16,20 MSD
Matrix:	OIL	LAB SAMPLE ID:	952310A
Sample wt/vol	0.7627 (g)	LAB FILE ID:	952310A
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/26/95
GC Column:	SP-2100	DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	100
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NU.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	50.0	U
11104-28-2	Aroclor 1221	50.0	U
11141-16-5	Aroclor 1232	50.0	U
53469-21-9	Aroclor 1242	50.0	U
12672-29-6	Aroclor 1248	50.0	U
11097-69-1	Aroclor 1254	2110	
11096-82-5	Aroclor 1260	50.0	U

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-11,15,23
Matrix:	OIL	LAB SAMPLE ID:	952311
Sample wt/vol	0.7560 (g)	LAB FILE ID:	952311
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401	DATE ANALYZED:	05/10/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	20
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MP.REI

TJF(6/21/95)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	10.0	U
11104-28-2	Aroclor 1221	10.0	U
11141-16-5	Aroclor 1232	10.0	U
53469-21-9	Aroclor 1242	46.2	
12672-29-6	Aroclor 1248	10.0	U
11097-69-1	Aroclor 1254	10.0	U
11096-82-5	Aroclor 1260	248	

V

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-11,15,23
Matrix:	OIL	LAB SAMPLE ID:	952311A
Sample wt/vol	0.7560 (g)	LAB FILE ID:	952311A
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2100	DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	20
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)	NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4	
		NEA File ID: S:\CERT\052595NO.REI	6/21/95

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	10.0	U
11104-28-2	Aroclor 1221	10.0	U
11141-16-5	Aroclor 1232	10.0	U
53469-21-9	Aroclor 1242	49.7	
12672-29-6	Aroclor 1248	10.0	U
11097-69-1	Aroclor 1254	10.0	U
11096-82-5	Aroclor 1260	381	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	042095REI
ELAP ID No.:	11078		CLIENT ID:	TK-17,23,26
Matrix:	OIL		LAB SAMPLE ID:	952312
Sample wt/vol	0.5748	(g)	LAB FILE ID:	952312
% Moisture:			DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION		DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401		DATE ANALYZED:	05/10/95
Conc. Extract Volume:	25	(uL)	DILUTION FACTOR:	1
Injection Volume:	2.5	(uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)			

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MQ.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	7.14	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.

ELAP ID No.:	11078	SDG No.:	042095REI
Matrix:	OIL	CLIENT ID:	TK-17,23,26
Sample wt/vol	0.5748 (g)	LAB SAMPLE ID:	952312A
% Moisture:		LAB FILE ID:	952312A
Extraction:	WASTE DILUTION	DATE RECEIVED:	04/20/95
GC Column:	SP-2100	DATE EXTRACTED:	04/25/95
Conc. Extract Volume:	25 (uL)	DATE ANALYZED:	05/17/95
Injection Volume:	2.5 (uL)	DILUTION FACTOR:	1
Method:	SW-846 8080 (PCB)	SULFUR CLEANUP:	Yes

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NP.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	8.71	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-12,15,23
Matrix:	OIL	LAB SAMPLE ID:	952313
Sample wt/vol	0.6125 (g)	LAB FILE ID:	952313
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401	DATE ANALYZED:	05/10/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	5
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MR.REI

TJF (6/21/95)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	2.50	U
11104-28-2	Aroclor 1221	2.50	U
11141-16-5	Aroclor 1232	2.50	U
53469-21-9	Aroclor 1242	9.16	
12672-29-6	Aroclor 1248	2.50	U
11097-69-1	Aroclor 1254	2.50	U
11096-82-5	Aroclor 1260	99.2	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	042095REI
ELAP ID No.:	11078		CLIENT ID:	TK-12,15,23
Matrix:	OIL		LAB SAMPLE ID:	952313A
Sample wt/vol	0.6125	(g)	LAB FILE ID:	952313A
% Moisture:			DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION		DATE EXTRACTED:	04/25/95
GC Column:	SP-2100		DATE ANALYZED:	05/18/95
Conc. Extract Volume:	25	(uL)	DILUTION FACTOR:	5
Injection Volume:	2.5	(uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)			

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NQ.REI

TJF 6/21/95

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	2.50	U
11104-28-2	Aroclor 1221	2.50	U
11141-16-5	Aroclor 1232	2.50	U
53469-21-9	Aroclor 1242	6.96	
12672-29-6	Aroclor 1248	2.50	U
11097-69-1	Aroclor 1254	2.50	U
11096-82-5	Aroclor 1260	94.2	

** Form based upon Form 1-CLP-PEST

Organic Data Qualifiers

U - The compound was analyzed for but not detected at or above the quantitation limit indicated.

J - The compound was analyzed for and determined to be present in the sample because the mass spectrum of the compound meets the identification criteria of the method. The concentration reported is an estimated value, less than the practical quantitation limit for the sample.

B - The compound is also found in an associated blank.

V - The reported value is considered estimated due to variance from quality control criteria

S - The reported value is suspected to be due to laboratory contamination.

R - The reported value is unusable and rejected due to variance from quality control criteria.

D - The reported value is taken from the analysis of a diluted sample.

E - The reported value exceeds the calibration range of the instrument.

N - Indicates presumptive evidence for compound identification.

A - Indicates that the compound is an aldol condensation product.

C - Compound identification has been qualitatively confirmed by GC/MS.

P - Indicates that the percent difference between the results from the two analytical columns is greater than 25%.

YES NO N/A

PART C: [redacted]/PCB ANALYSIS

1.0 Traffic Reports and Laboratory Narrative

1.1 Are Traffic Report Forms present for all samples?

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the Traffic Reports or SDG Narrative indicate any problems with sample receipt, condition of the samples, analytical problems or special circumstances affecting the quality of the data?

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be qualified as estimated (J). If a soil sample, other than TCLP, contains more than 90% water, all data should be qualified as unusable (R).

ACTION: If samples were not iced upon receipt at the laboratory, flag all positive results "J" and all non-detects "UJ".

2.0 Holding Times

2.1 Have any [redacted]/PCB technical holding times, determined from date of collection to date of extraction, been exceeded?

Water and soil samples for [redacted]/PCB analysis must be extracted within 5 7 days of the date of collection. Extracts must be analyzed within 40 days of the date extraction.

YES NO N/A

ACTION: If technical holding times are exceeded, flag all positive results as estimated (J) and sample quantitation limits (UJ) and document in the narrative that holding times were exceeded. If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re-analysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all the data should at least be qualified "J", but the reviewer may determine that non-detects are unusable (R).

3.0 Surrogate Recovery (Form II)

3.1 Are the PEST/PCB Surrogate Recovery Summaries (Form II) present for each of the following matrices?

a. Low Water

b. Soil

3.2 Are all the [redacted]PCB samples listed on the appropriate Surrogate Recovery Summary for each of the following matrices?

a. Low Water

b. Soil

ACTION: Call lab for explanation/resubmittals. If missing deliverables are unavailable, document effect in data assessments.

3.3 Were outliers marked correctly with an asterisk?

ACTION: Circle all outliers in red.

3.4 Were surrogate recoveries of TCX or DCB outside of the contract specification for any sample or blank? (60-150%)

YES NO N/A

ACTION: No qualification is done if surrogates are diluted out. If recovery for both surrogates is below the contract limit, but above 10%, flag all results for that sample 'J". If recovery is < 10% for either surrogate, qualify positive results 'J" and flag non-detects "R". If recovery is above the contract advisory limits for both surrogates qualify positive values "J".

3.5 Were surrogate retention times (RT) within the windows established during the initial 3-point analysis of Individual Standard Mixture A? [✓] ___ ___

ACTION: If the RT limits are not met, the analysis may be qualified unusable (R) for that sample on the basis of professional judgement.

3.6 Are there any transcription/calculation errors between raw data and Form II? ___ [✓] ___

ACTION: If large errors exist, call lab for explanation/resubmittal. Make any necessary corrections and document effect in data assessments.

4.0 Matrix Spikes (Form III)

4.1 Is the Matrix Spike/Matrix Spike Duplicate Recovery Form (Form III) present? [✓] ___ ___

4.2 Were matrix spikes analyzed at the required frequency for each of the following matrices? (1 MS/MSD must be performed for every 20 samples of similar matrix or concentration level)

a. Low Water [✓] ___ ___

b. Soil [ ] ___ ___✓

ACTION: If any matrix spike data are missing, take the action specified in 3.2 above.

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	YES	NO	N/A

4.3 How many [redacted] PCB spike recoveries are outside QC limits?

~~Water~~ 0.1 SP-2250/2400 ~~Soil~~ 0.1 Column SP-2100

0 out of ~~12~~ 2 0 out of ~~12~~ 2

4.4 How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?

~~Water~~ 0.1 ~~Soil~~ 0.1 Column SP-2100

0 out of ~~6~~ 1 1 out of ~~6~~ 1

ACTION: No action is taken on MS/MSD data alone. However, using informed professional judgement, the data reviewer may use the matrix spike and matrix spike duplicate results in conjunction with other QC criteria and determine the need for some qualification of the data.

5.0 Blanks (Form IV)

5.1 Is the Method Blank Summary (Form IV) present? [✓] ___ ___

5.2 Frequency of Analysis: For the analysis of [redacted] PCB TCL compounds, has a reagent/ method blank been analyzed for each SDG or every 20 samples of similar matrix or concentration or each extraction batch, whichever is more frequent? [✓] ___ ___

ACTION: If any blank data are missing, take the action specified above in 3.2. If blank data is not available, reject (R) all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

5.3 Has a [redacted] PCB instrument blank been analyzed at the beginning of every 12 hr. period following the initial calibration sequence? (minimum contract requirement)

YES NO N/A

ACTION: If any blank data are missing, call lab for explanation/resubmittals. If missing deliverables are unavailable, document the effect in data assessments.

5.4 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for [redacted] PCBs? [✓] ___ ___

ACTION: Use professional judgement to determine the effect on the data.

6.0 Contamination

NOTE: "Water blanks", "distilled water blanks" and "drilling water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

6.1 Do any method/instrument/reagent/cleanup blanks have positive results for [redacted] PCBs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample Dilution Factor and corrected for % moisture when necessary. ___ [✓] ___

6.2 Do any field/rinse blanks have positive [redacted] PCB results? ___ [✓] ___

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case or one per day) may be used to qualify data. Blanks may not be qualified because of contamination in another blank. Field blanks must be qualified for surrogate, or calibration QC problems.

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	YES	NO	N/A

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks.

Sample conc > CRQL but < 5x blank	Sample conc < CRQL & is < 5x blank value	Sample conc > CRQL & > 5x blank value
Flag sample result with a "U";	Report CRQL & qualify "U"	No qualification is needed

NOTE: If gross blank contamination exists, all data in the associated samples should be qualified as unusable (R).

6.3 Are there field/rinse/equipment blanks associated with every sample? [✓] ___ ___

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

7.0 Calibration and GC Performance

7.1 Are the following Gas Chromatograms and Data Systems Printouts for both columns present for all samples, blanks, MS/MSD?

	YES	NO	N/A
a. peak resolution check	[ ]	___	✓
b. performance evaluation mixtures	[✓]	___	___
c. aroclor 1016/1260	[✓]	___	___
d. aroclors 1221, 1232, 1242, 1248, 1254	[✓]	___	___
~~e. toxaphene~~	[ ]	___	___
~~f. low points individual mixtures A & B~~	[ ]	___	___
~~g. med points individual mixtures A & B~~	[ ]	___	___
~~h. high points individual mixtures A & B~~	[ ]	___	___

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YES NO N/A

i. instrument blanks [✓] ___ ___

ACTION: If no, take action specified in 3.2 above.

7.2 ~~Are Forms VI - PEST~~ PCB ~~1-4 present and complete for each column and each analytical sequence?~~ [ ] ___ ___

ACTION: If no, take action specified in 3.2 above.

7.3 Are there any transcription/calculation errors between raw data and Forms VI? ___ [ ] ___

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document effect in data assessments.

7.4 Do all standard retention times, including each pesticide in each level of Individual Mixtures A & B, fall within the windows established during the initial calibration analytical sequence? (For Initial Calibration Standards, Form VI - PEST - 1). [ ] ___ ___

ACTION: If no, all samples in the entire analytical sequence are potentially affected. Check to see if the chromatograms contain peaks within an expanded window surrounding the expected retention times. If no peaks are found and the surrogates are visible, non-detects are valid. If peaks are present and cannot be identified through pattern recognition or using a revised RT window, qualify all positive results and non-detects as unusable (R).
For aroclors, RT may be outside the RT window, but the aroclor may still be identified from the individual pattern.

7.5 Are the linearity criteria for the initial analyses of Individual Standards A & B within limits for both columns? (% RSD must be < 20.0% for all analytes except for the 2 surrogates, which must not exceed 30.0 % RSD). See Form VI PEST - 2. [ ] ___ ___

YES NO N/A

ii. Qualify positive results for endrin ketone and endrin aldehyde as presumptively present at an approximated quantity (NJ). Qualify positive results for DDD and/or DDE as presumptively present at an approximated quantity (NJ).

7.9 Are the relative percent difference (RPD) values for all PEM analytes <25.0%? (Form VII-PEST-1) [ ] ___ ___

ACTION: If no, qualify all associated positive results generated during the analytical sequence "J" and sample quantitation limits "UJ".

NOTE: If the failing PEM is part of the initial calibration. all samples are potentially affected. If the offending standard is a verification calibration, the associated samples are those which followed the last in-control standard until the next passing standard.

7.10 Have all samples been injected within a 12 hr. period beginning with the injection of an Instrument Blank? [ ] ___ ___

ACTION: If no, use professional judgement to determine the severity of the effect on the data and qualify accordingly.

7.11 Is Form VII - ~~Pest-2~~ PCB present and complete for each I~~NDA and INDB~~ Verification Calibration analyzed? [✓] ___ ___

ACTION: If no, take action specified in 3.2 above.

7.12 Are there any transcription/calculation errors between raw data and Form VII - ~~Pest-2~~ PCB? ___ [✓] ___

ACTION: If large errors exists, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments. under "Conclusions".

YES NO N/A

7.13 Do all standard retention times for each ~~[illegible]~~ PCB ~~and INDB~~ Verification Calibration fall within the windows established by the initial calibration sequence? [✓] ___ ___

ACTION: If no, beginning with the samples which followed the last in-control standard, check to see if the chromatograms contain peaks within an expanded window surrounding the expected retention times. If no peaks are found and the surrogates are visible, non-detects are valid. If peaks are present and cannot be identified through pattern recognition or using a revised RT window, qualify all positive results and non-detects as unusable (R).

7.14 Are RPD values for all verification calibration standard compounds < ~~25.0%~~ 15.0? [✓] ___ ___

ACTION: If the RPD is >~~25~~ 15.0% for the compound being quantitated, qualify all associated positive results "J" and non-detects "UJ". The "associated samples" are those which followed the last in-control standard up to the next passing standard containing the analyte which failed the criteria. If the RPD is >90%, flag all non-detects for that analyte R (unusable).

8.0 Analytical Sequence Check (Form VIII-~~PEST~~ PCB)

8.1 Is Form VIII present and complete for each column and each period of analyses? [✓] ___ ___

ACTION: If no, take action specified in 3.2 above.

8.2 Was the proper analytical sequence followed for each initial calibration and subsequent analyses? ~~(See CLP SOW p. D-39 & D-41/PEST)~~ PC [✓] ___ ___

ACTION: If no, use professional judgement to determine the severity of the effect on the data and qualify it accordingly. Generally, the effect is negligible unless the sequence was grossly altered or the calibration was also out of limits.

	YES	NO	N/A
9.0 Cleanup Efficiency Verification (Form IX)			
9.1 Is Form IX - Pest-1 present and complete for each lot of Florisil Cartridges used? (Florisil Cleanup is required for all Pest/PCB extracts.)	[ ]	___	✓
ACTION: If no, take action specified in 3.2 above. If data suggests that florisil cleanup was not performed, make note in "Contract Problems/Non-Compliance".			
9.2 Are all samples listed on the Pesticide Florisil Cartridge Check Form?	[ ]	___	✓
ACTION: If no, take action specified in 3.2 above.			
9.3 If GPC Cleanup was performed, (mandatory for all soil sample extracts) is Form IX - Pest-2 present?	[ ]	___	✓
ACTION: If no, take action specified in 3.2 above.			
ACTION: If GPC was not performed when required, make note in" Contract Problems/Non-Compliance" section of data assessment.			
9.4 Are percent recoveries (% R) of the pesticide and surrogate compounds used to check the efficiency of the cleanup procedures within QC limits: 80-120% for florisil cartridge check?	[ ]	___	✓
80-110% for GPC calibration?	[ ]	___	✓

Qualify only the analyte(s) which fail the recovery criteria as follows:

ACTION: If % R are < 80%, qualify positive results "J" and quantitation limits "UJ". Non-detects should be qualified "R" if zero %R was obtained for pesticide compounds. Use professional judgement to qualify positive results if recoveries are greater than the upper limit.

	YES	NO	N/A

NOTE: Sample data should be evaluated for potential interferences if recovery of 2,4,5-trichlorophenol was > 5% in the Florisil Cartridge Performance Check analysis. Make note in Contract Problems/ Non-Compliance section of reviewer narrative.

NOTE: The raw data of the GPC Calibration Check analysis is evaluated for pattern similarity with previously run Aroclor standards.

10.0 Pesticide/PCB Identification

	YES	NO	N/A
10.1 Is Form X complete for every sample in which a pesticide or PCB was detected?	OK	___	___

ACTION: If no, take action specified in 3.2 above.

	YES	NO	N/A
10.2 Are there any transcription/calculation errors between raw data and Forms 6E, 6G, 7E, 7D, 8D, 9A, B, 10A.	___	OK	___

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and note error under "Conclusions".

	YES	NO	N/A
10.3 Are retention times (RT) of sample compounds within the established RT windows for both analyses?	[✓]	___	___
Was GC/MS confirmation provided when required (when compound concentration is > 10 ug/ml in final extract)?	[ ]	___	✓

Action: Use professional judgement to qualify positive results which were not confirmed by GC/MS. Qualify as unusable (R) all positive results which were not confirmed by second GC column analysis. Also qualify as unusable (R) all positive results not meeting RT window unless associated standard compounds are similarly biased. (see Functional Guidelines) The reviewer should use professional judgement to assign an appropriate quantitation limit.

	YES	NO	N/A
10.4 Is the percent difference (% D) calculated for the positive sample results on the two GC columns < 25.0%?	[ ]	✓	

ACTION: If the reviewer finds neither column shows interference for the positive hits, the data should be flagged as follows:

% Difference	Qualifier
25-50 %	J
50-90 %	JN
> 90 %	R

NOTE: The lower of the two values is reported on Form I. If using professional judgement, the reviewer determines that the higher result was more acceptable, the reviewer should replace the value and indicate the reason for the change in the data assessment.

	YES	NO	N/A
10.5 Check chromatograms for false negatives, especially the multiple peak compounds toxaphene and PCBs. Were there any false negatives?		[✓]	

ACTION: Use professional judgement to decide if the compound should be reported. If the appropriate PCB standards were not analyzed, qualify the data unusable (R).

11.0 Compound Quantitation and Reported Detection Limits

	YES	NO	N/A
11.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Were any errors found?		[✓]	

NOTE: Single-peak pesticide results can be checked for rough agreement between quantitative results obtained on the two GC columns. The reviewer should use professional judgement to decide whethera much larger concentration obtained on one column versus the other indicates the presence of an interfering compound. If an interfering compound is indicated, the lower of the two values should be reported and qualified as presumptively present at an approximated quantity (NJ). This necessitates a determination of an estimated concentration on the confirmation column. The narrative should indicate that the presence of interferences has interfered with the evaluation of the second column confirmation.

	YES	NO	N/A
11.2 Are the CRQLs adjusted to reflect sample dilutions and, for soils, % moisture?	[ ]	___	___

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQL data from the diluted sample analysis). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" value on the original Form I and substituting it with data from the analysis of diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's that should not be used, including any in the summary package.

ACTION: Quantitation limits affected by large, off-scale peaks should be qualified as unusable (R). If the interference is on-scale, the reviewer can provide an approximated quantitation limit (UJ) for each affected compound.

12.0 Chromatogram Quality

	YES	NO	N/A
12.1 Were baselines stable?	[✓]	___	___
12.2 Were any electropositive displacement (negative peaks) or unusual peaks seen?	___	[✓]	___

ACTION: Address comments under System Performance of data assessment.

	YES	NO	N/A
13.0 *Field Duplicates*			
13.1 Were any field duplicates submitted for PEST/PCB analysis?	[✓]	___	___

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, identification of field duplicates should be confirmed by contacting the sampler.

Rust Environmental
12 Metro Park Road
Albany, N.Y. 12205 (518) 458-1313

Sheet No. 2 of 3

RUST

Client Name: Stillman Friedman & Shaw
Project No.: 38808.000
Site Location: B.C.F. Oil Refining
Sampler: CH2M Hill / Frank Williams

RUST Contact: Frank Williams 435-7236
Laboratory Contact: Bob Wagner
Lab Identification: Northeast Analytical
Date Report Required:

Sample Identification	Date	Time	Sample Matrix	Collection Vessel	Lowering Device	# Sample Containers	NEA #	Preserv.	Comp. or Grab	Comment
TK-4, 1, 5	4/18/95	11:40	sed., liquid	bailer/dipper	nylon rope metal rod	1	952298		C	PCBs SW846 8080*
Field Blank	"	12:20	H_2O	bailer/dipper	—	2	952299		C	PCBs SW846 8080*
TK-5, 7, 12.5	"	13:00	oil	"	nylon rope metal rod	1	952300		C	" " " *
TK-6, 7.5, 9.5	"	13:20	oil, sed.	"	"	1	952301		C	" " " *
TK-7, 6, 14	"	13:40	sed, oil	"	"	1	952302		C	" " " *
TK-8, 9, 11.5	"	14:00	sludge, oil	"	"	1	952303		C	" " " *
TK-9, 6, 8, 12.5	"	14:20	oil, solids	"	"	1	952304		C	" " " *
TK-10, 12, 15	"	14:45	water, oil	"	"	1	952305		C	" " " *
TK-15, 4, 9	"	15:15	water, oil	"	"	1	952306		C	" " " *
TK-16, 2.5, 7	"	15:35	oil, water, sed	"	"	1	952307		C	" " " *
TK-14, 16, 20	"	16:35	oil	bailer	nylon rope	1	952308		C	" " " *
TK-14, 16, 20 MS	"	16:35	oil	"	"	1	952309		C	" " " *
TK-14, 16, 20 MSD	"	16:35	oil	"	"	1	952310		C	" " " *
							4/MSA			*See Instructions on Sheet

	Name	Affiliation	Date	Time
Relinquished by:	Frank Williams	Rust	4/20/95	1635
Received by:	Kevin Slater	RUST	4/20/95	1635
Relinquished by:	Kevin Slater	RUST	4/20/95	1720
Received by:				

	Name	Date	Time
Received by Laboratory:	[illegible]	4/20/95	1:

Samples Intact & Properly Preserved: Yes or

Laboratory Comments: COOLER 9°C

000007

BCF 1.4 00108

FORM50

Rust Environmental
12 Metro Park Road
Albany, N.Y. 12205 (518) 458-1313

Sheet No. 3 of 3

RUST

Client Name: Stillman Friedman & Shaw	RUST Contact: Frank Williams 435-7236
Project No.: 38808.000	Laboratory Contact: Bob Wagner
Site Location: B.C.F. Oil Refining	Lab Identification: Northeast Analytical
	Date Report Required:
Sampler: CH2M Hill / Frank Williams	

Sample Identification	Date	Time	Sample Matrix	Collection Vessel	Lowering Device	# Sample Containers	NEA #	Preserv.	Comp. or Grab	Comment
TK-11,15,23	4/18/95	16:55	oil	bailer	nylon rope	1	952	311	C	PCBs SW846 8080 *
										VOAs SW846 8260 *
										BN/Acids SW846 8270 *
TK-17,23,26	4/18/95	16:40	oil	bailer	nylon rope	1	952	312	C	PCBs SW846 8080 *
TK-12,15,23	"	17:10	"	"	"	1	952	313	C	PCBs SW846 8080 *

* See Instructions on She

	Name	Affiliation	Date	Time
Relinquished by:	Frank Williams	Rust	4/20/95	16:35
Received by:	Kevin Slater	Rust	4/20/95	16:35
Relinquished by:	Kevin Slater	Rust	4/20/95	1720
Received by:				

Received by Laboratory: [signature] 4/20/95

Samples Intact & Properly Preserved: Yes or

Laboratory Comments: COOLER 9°C

000000

BCF 1.4 00109

FORM50

Rust Environmental
12 Metro Park Road
Albany, N.Y. 12205 (518) 458-1313

Sheet No. 1 of 3

RUST

Client Name: Stillman Friedman & Shaw
Project No.: 38808.000
Site Location: B.C.F. Oil Refining
Sampler: Clt McGill / Frank Williams

RUST Contact: Frank Williams 435-7236
Laboratory Contact: Bob Wagner
Lab Identification: Northeast Analytical
Date Report Required:

Sample Identification	Date	Time	Sample Matrix	Collection Vessel	Lowering Device	# Sample Containers	NEA #	Preserv.	Comp. or Grab	Comment
Dup -	4/18/95		oil	bailer/dipper	nylon rope metal rod	1	952294		C	PCBs SW-846 8080 *
TK-1, 8, 14 -	"	10:10	oil & sed.	"	"	1	952295		C	PCBs SW-846 8080 *
TK-2, 6.5, 14 -	"	10:46	oil & sed.	"	"	1	952296		C	PCBs SW-846 8080 *
TK-3, 6.5, 11 -	"	11:15	sed, oil, H_2O	"	"	1	952297		C	PCBs SW-846 8080 *

* Category Type B deliverables Require extended data package - Initial & Continuing calibration chromatogram & quantitation sheets all Aroclors, Sample chromatogram & quantitation sheets, Method blank chromatogram & quantitation sheets. Second C confirmation needed

	Name	Affiliation	Date	Time
Relinquished by:	Frank Williams	Rust	4/20/95	16:35
Received by:	Kevin Slater	RUST	4/20/95	1635
Relinquished by:	Kevin Slater	RUST	4/20/95	720

Received by Laboratory: Name [illegible] Date 4/20/95
Samples Intact & Properly Preserved: Yes or
Laboratory Comments: COOLER 9°C

BCF 1.4 00110

000006

FORM 50

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	012695REI
ELAP ID No.:	11078	CLIENT ID:	TANK 11 20FT.MS
Matrix:	OIL	LAB SAMPLE ID:	R950447S
Sample wt/vol	0.5097 (g) ✓	LAB FILE ID:	R950447S
% Moisture:		DATE RECEIVED:	01/26/95
Extraction:	WASTE DILUTION ✓	DATE EXTRACTED:	02/10/95 16 days
GC Column:	SUPELCO 2-0843	DATE ANALYZED:	02/16/95 ✓
Conc. Extract Volume:	25000 (uL) ✓	DILUTION FACTOR:	125 ✓
Injection Volume:	4 (uL) ✓	SULFUR CLEANUP:	YES ✓
Method:	SW-846 8080 (PCB) ✓		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\021795ME.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g) (PPM)	Q
12674-11-2	Aroclor 1016	62.5	U
11104-28-2	Aroclor 1221	62.5	U
11141-16-5	Aroclor 1232	62.5	U
53469-21-9	Aroclor 1242 ✓	1700	
12672-29-6	Aroclor 1248	62.5	U
11097-69-1	Aroclor 1254	62.5	U
11096-82-5	Aroclor 1260	532	~~U~~

RMN
24FEB95

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.
ELAP ID No.: 11078
Matrix: OIL
Sample wt/vol: 0.5275 (g) ✓
% Moisture:
Extraction: WASTE DILUTION ✓
GC Column: SUPELCO 2-0843
Conc. Extract Volume: 25000 (uL) ✓
Injection Volume: 4 (uL) ✓
Method: SW-846 8080 (PCB) ✓

SDG No.: 012695REI
CLIENT ID: TANK 11 20FT MSD
LAB SAMPLE ID: R950447D
LAB FILE ID: R950447D
DATE RECEIVED: 01/26/95
DATE EXTRACTED: 02/10/95 16 days
DATE ANALYZED: 02/17/95 ✓
DILUTION FACTOR: 125 ✓
SULFUR CLEANUP: YES ✓
NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4
NEA File ID: S:\CERT\021795MF.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g) (PPM)	Q
12674-11-2	Aroclor 1016	62.5	U
11104-28-2	Aroclor 1221	62.5	U
11141-16-5	Aroclor 1232	62.5	U
53469-21-9	Aroclor 1242	1700	
12672-29-6	Aroclor 1248	62.5	U
11097-69-1	Aroclor 1254	62.5	U
11096-82-5	Aroclor 1260	515	~~U~~

amn
24FEB95

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	012695REI
ELAP ID No.:	11078		CLIENT ID:	TANK 11 30FT.
Matrix:	OIL		LAB SAMPLE ID:	R950446
Sample wt/vol	0.5097	(g)✓	LAB FILE ID:	R950446
% Moisture:			DATE RECEIVED:	01/26/95
Extraction:	WASTE DILUTION ✓		DATE EXTRACTED:	02/10/95 16 days
GC Column:	SUPELCO 2-0843		DATE ANALYZED:	02/16/95 ✓
Conc. Extract Volume:	25000	(uL)✓	DILUTION FACTOR:	25 ✓
Injection Volume:	4	(uL)✓	SULFUR CLEANUP:	YES ✓
Method:	SW-846 8080 (PCB)✓			

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\021795MC.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g) (PPM)	Q
12674-11-2	Aroclor 1016	12.5	U
11104-28-2	Aroclor 1221	12.5	U
11141-16-5	Aroclor 1232	12.5	U
53469-21-9	Aroclor 1242 ✓	✓ 51.8	
12672-29-6	Aroclor 1248	12.5	U
11097-69-1	Aroclor 1254	12.5	U
11096-82-5	Aroclor 1260 ✓	✓ 473	

amn
24FEB95

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.

ELAP ID No.:	11078	SDG No.:	012695REI
Matrix:	OIL	CLIENT ID:	TANK 14 20FT.
Sample wt/vol	0.5723 (g) ✓	LAB SAMPLE ID:	R950445
% Moisture:		LAB FILE ID:	R950445
Extraction:	WASTE DILUTION ✓	DATE RECEIVED:	01/26/95
GC Column:	SUPELCO 2-0843	DATE EXTRACTED:	02/10/95 — 16 days
Conc. Extract Volume:	25000 (uL) ✓	DATE ANALYZED:	02/16/95 ✓
Injection Volume:	4 (uL) ✓	DILUTION FACTOR:	15 ✓
Method:	SW-846 8080 (PCB) ✓	SULFUR CLEANUP:	YES ✓

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\021795MB.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g) (PPM)	Q
12674-11-2	Aroclor 1016	7.50	U
11104-28-2	Aroclor 1221	7.50	U
11141-16-5	Aroclor 1232	7.50	U
53469-21-9	Aroclor 1242 ✓	26.2	
12672-29-6	Aroclor 1248	7.50	U
11097-69-1	Aroclor 1254	7.50	U
11096-82-5	Aroclor 1260 ✓	250	

amn
24FEB95

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	012695REI
ELAP ID No.:	11078		CLIENT ID:	TANK 14 30
Matrix:	OIL		LAB SAMPLE ID:	R950444
Sample wt/vol	0.5266	(g) ✓	LAB FILE ID:	R950444
% Moisture:			DATE RECEIVED:	01/26/95
Extraction:	WASTE DILUTION ✓		DATE EXTRACTED:	02/10/95 16 days
GC Column:	SUPELCO 2-0843		DATE ANALYZED:	02/16/95 ✓
Conc. Extract Volume:	25000	(uL) ✓	DILUTION FACTOR:	15 ✓
Injection Volume:	4	(uL) ✓	SULFUR CLEANUP:	YES ✓
Method:	SW-846 8080 (PCB) ✓			

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\021795MA.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g) (PPM)	Q
12674-11-2	Aroclor 1016	7.50	U
11104-28-2	Aroclor 1221	7.50	U
11141-16-5	Aroclor 1232	7.50	U
53469-21-9	Aroclor 1242 ✓	26.2	
12672-29-6	Aroclor 1248	7.50	U
11097-69-1	Aroclor 1254	7.50	U
11096-82-5	Aroclor 1260 ✓	248	

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24FEB95

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	012695REI
ELAP ID No.:	11078	CLIENT ID:	BLANK
Matrix:	OIL	LAB SAMPLE ID:	950210BO1E ✓
Sample wt/vol	0.5107 (g)	LAB FILE ID:	R0210BO1
% Moisture:		DATE RECEIVED:	
Extraction:	WASTE DILUTION ✓	DATE EXTRACTED:	02/10/95
GC Column:	SUPELCO 2-0843	DATE ANALYZED:	02/16/95 ✓
Conc. Extract Volume:	25000 (uL) ✓	DILUTION FACTOR:	1 ✓
Injection Volume:	4 (uL) ✓	SULFUR CLEANUP:	YES ✓
Method:	SW-846 8080 (PCB) ✓		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\021795MG.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g) (PPM)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	0.500	U

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24FEB95

** Form based upon Form 1-CLP-PEST

Appendix D

Data Validation Summary
Method 8080
April 1995 Sampling

PCB Data Validation Summary
BCF Oil Refining
Brooklyn, New York
Analytical Laboratory: Northeast Analytical, Inc.
Sample Delivery Group 042095REI

PCB results for sixteen (16) samples with matrix QC, one (1) blind field duplicate and one (1) field blank were reviewed to evaluate the data quality. Data were assessed in accordance with criteria from the EPA Region II document CLP Organics Review and Preliminary Review (SOP No. HW-6, Revision #8, January 1992), where applicable, and the New York State Department of Environmental Conservation Analytical Services Protocol (December 1991) Category B Deliverables for the analysis of PCBs by EPA Method 8080. The validation pertains to the following samples collected by Rust Environment & Infrastructure and CH2M Hill personnel on April 18, 1995.

TK-1,8,14	**TK-6,7.5,9.5**	**TK-11,15,23**	**TK-15,4,9**
TK-2,6.5,14	**TK-7,6,14**	**TK-12,15,23**	**TK-16,2.5,7**
TK-3,6.5,11	**TK-8,9,11.5**	**TK-14,16,20**	**TK-17,23,26**
TK-4,1,5	**TK-9,6,8,12.5**	**TK-14,16,20 MS**	**Dup**
TK-5,7,12.5	**TK-10,12,15**	**TK-14,16,20 MSD**	**Field Blank**

The following items/criteria applicable to the above-listed samples were reviewed:

- Case Narrative
- Deliverable Requirements
- Holding Times and Sample Preparation
- Surrogate Recoveries
- Instrument and Method Blank Summaries
- Instrument Calibration
- PCB Clean-up Procedure QA/QC
- PCB Identification Summary
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Data
- Blind Field Duplicate Data

The above items were in compliance with applicable QC criteria with the exception of the items discussed in the following text. The data have been validated according to the above procedures and qualified as described in the following text.

Deliverable Requirements

These samples have been analyzed in accordance with EPA Method 8080. Although dual column analysis is not required as it is for USEPA CLP and NYSDEC ASP PCB analysis, the laboratory has provided dual column confirmation, per our request. The analytical results for both columns

(SP-2250/2401 and SP-2100, respectively) have been reported. It should be noted that the ASP requires the result for each Aroclor to be reported from the column with the lower concentration due to possible coelution with non-target compounds.

Two (2) significant clerical errors were noted during the validation of the data:

1. The laboratory incorrectly labeled the Form I for sample TK-9,6,8,12.5 as TK-10,12,15.
2. A transcription error was made by the laboratory when reporting the PCB results for sample TK-15,4,9 from column SP-2100.

The laboratory was notified of these errors and have submitted corrected PCB Analysis Data Sheets for each of these samples.

Holding Times and Sample Preparation

The laboratory indicated that the cooler containing these samples arrived at the laboratory with an internal temperature of 9°C, which is outside of the range specified of 2°C to 6°C specified in the ASP. This slightly elevated temperature is not considered to be significant, however, and no data have been qualified based upon this nonconformance. Please note that positive PCB results were obtained for the samples, and although the slightly elevated temperature may indicate a potential low bias, PCB identification would not be affected.

Surrogate Recoveries

The analysis of samples TK-7,6,14 (38.3%), TK-10,12,15 (38.3%) and TK-14,16,20 (36.4%) on column SP-2250/2401 and the analysis of sample TK-10,12,15 (55.0%) on column SP-2100 exhibited percent recoveries for the surrogate compound decachlorobiphenyl that were outside of the advisory QC limits (60%-150%). In accordance with EPA validation criteria, no data have been qualified based upon these recoveries, however, because the surrogate recoveries are considered advisory and only one (1) surrogate compound must recover within QC limits for the data to be accepted without qualification.

The surrogate compound tetrachloro-m-xylene (TCX) was not detected in the field blank or the aqueous blank associated with this package. The TCX percent recoveries were with in QC limits for each of the associated samples, however, and no data have been qualified based upon this nonconformance.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

The relative percent difference (RPD) between the percent recoveries of Aroclor-1254 for TK-14,16,20 MS and TK-14,16,20 MSD from column SP-2100 exceeded the QC limit (RPD<20). The RPD between the MS and MSD percent recoveries for Aroclor-1254 was 33.3%. No data have been qualified based upon this nonconformance, however, because MS/MSD data are for advisory purposes only and other data did not indicate the need for qualification of the data. Please note that all applicable QC limits were met for the TK-14,16,20 MS/MSD analysis from column

SP-2250/2401.

It should also be noted that although the analysis of sample TK-14,16,20 was performed at a ten fold dilution, the TK-14,16,20 MS/MSD analysis was performed at a hundred fold dilution due to the extremely high concentration of spike (Aroclor-1254) added. Although this is non-compliant, the validator does not believe that the over all data quality of this package was affected and no data have been qualified based upon this nonconformance.

PCB Identification Summary

Table 1 summarizes the percent difference (%D) between the positive sample results from the two analytical columns. In accordance with EPA validation guidelines, positive sample results with a %D greater than 25% were flagged with a "V" and are considered estimated due to variance from quality control criteria.

Blind Field Duplicate

Sample DUP is a blind field duplicate of sample TK-11,15,23. Sampling and analytical precision data, expressed as relative percent difference (RPD), are presented below. Although there are no established QC limits for field duplicate RPD data, Rust considers RPD values of 40% or less an indication of acceptable sampling and analytical precision. Please note that the RPD values presented below indicate acceptable sampling and analytical precision.

Blind Field Duplicate Data
Column SP-2250/2401

Compound	TK-11,15,23	Duplicate	RPD
Aroclor-1242	46.2 ug/g	40.9 ug/g	12%
Aroclor-1260	248 ug/g	398 ug/g	46%

Blind Field Duplicate Data
Column SP-2100

Compound	TK-11,15,23	Duplicate	RPD
Aroclor-1242	49.7 ug/g	39.3 ug/g	23%
Aroclor-1260	381 ug/g	464 ug/g	20%

Summary

In summary, based on 224 data points, 12 of which were qualified as estimated, and none qualified as unusable, and since estimated data are considered valid and usable, the usability of this package is 100%.

Please note that the original data validation summary for this package was reviewed by Mr. Timothy J. Fahrenkopf on July 10, 1995 and that this data validation summary is based upon the original data validation performed by Mr. Fahrenkopf as well as my own review of the data.

Anthony M. Tooe — 6 AUG 96

Reviewed By — Date

Ed Fahrenkopf — 8-6-96

Approved By — Date

Table 1
Percent Difference Calculations

Sample ID	Compound	Column 1 SP-2250/2401 Concentration (ug/g)	Column 2 SP-2100 Concentration (ug/g)	%D
Dup	Aroclor- 1242	40.9	39.3	4.1%
	Aroclor- 1260	398	464	16.6%
TK-1,8,14	Aroclor- 1260	6.7	7.11	6.1%
TK-2,6.5,14	Aroclor- 1242	7.76	6.13	**26.6%**
	Aroclor- 1260	92.5	108	16.8%
TK-3,6.5,11	Aroclor- 1260	42.4	48.6	14.6%
TK-4,1,5	Aroclor- 1260	12.8	14.2	10.9%
TK-5,7,12.5	Aroclor- 1242	9.63	6.54	**47.2%**
	Aroclor- 1260	116	109	6.4%
TK-6,7.5,9.5	Aroclor- 1260	28.6	29.6	3.5%
TK-7,6,14	Aroclor- 1260	38.9	30.3	**28.4%**
TK-8,9,11.5	Aroclor- 1260	4.42	3.29	**34.3%**
TK-15,4,9	Aroclor- 1260	1.32	1.53	15.9%
TK-16,2.5,7	Aroclor- 1260	4.04	3.91	3.3%
TK-14,16,20	Aroclor- 1242	23.5	24.9	6.0%
	Aroclor- 1260	174	280	**60.9%**
TK-14,16,20 MS	Aroclor- 1254	1720	1970	14.5%
TK-14,16,20 MSD	Aroclor- 1254	1550	2110	**36.1%**
TK-11,15,23	Aroclor- 1242	46.2	49.7	7.6%
	Aroclor- 1260	248	381	**53.6%**
TK-17,23,26	Aroclor- 1260	7.14	8.71	22.0%
TK-12,15,23	Aroclor- 1242	9.16	6.96	**31.6%**
	Aroclor- 1260	99.2	94.2	5.3%

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	DUPLICATE
Matrix:	OIL	LAB SAMPLE ID:	952294
Sample wt/vol	0.5986 (g)	LAB FILE ID:	952294
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401	DATE ANALYZED:	05/09/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	20
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MA.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	10.0	U
11104-28-2	Aroclor 1221	10.0	U
11141-16-5	Aroclor 1232	10.0	U
53469-21-9	Aroclor 1242	40.9	
12672-29-6	Aroclor 1248	10.0	U
11097-69-1	Aroclor 1254	10.0	U
11096-82-5	Aroclor 1260	398	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	042095REI
ELAP ID No.:	11078		CLIENT ID:	DUPLICATE
Matrix:	OIL		LAB SAMPLE ID:	952294A
Sample wt/vol	0.5986	(g)	LAB FILE ID:	952294A
% Moisture:			DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION		DATE EXTRACTED:	04/25/95
GC Column:	SP-2100		DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25	(uL)	DILUTION FACTOR:	20
Injection Volume:	2.5	(uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)			

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NA.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	10.0	U
11104-28-2	Aroclor 1221	10.0	U
11141-16-5	Aroclor 1232	10.0	U
53469-21-9	Aroclor 1242	39.3	
12672-29-6	Aroclor 1248	10.0	U
11097-69-1	Aroclor 1254	10.0	U
11096-82-5	Aroclor 1260	464	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	042095REI
ELAP ID No.:	11078		CLIENT ID:	TK-1,8,14
Matrix:	OIL & SED.		LAB SAMPLE ID:	952295
Sample wt/vol	0.5151	(g)	LAB FILE ID:	952295
% Moisture:			DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION		DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401		DATE ANALYZED:	05/09/95
Conc. Extract Volume:	25	(uL)	DILUTION FACTOR:	1
Injection Volume:	2.5	(uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)			

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MB.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	6.70	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-1,8,14
Matrix:	OIL,SED.	LAB SAMPLE ID:	952295A
Sample wt/vol	0.5151 (g)	LAB FILE ID:	952295A
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2100	DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	1
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NB.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	7.11	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-2,6.5,14
Matrix:	OIL & SED.	LAB SAMPLE ID:	952296R1
Sample wt/vol	0.7085 (g)	LAB FILE ID:	952296R1
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401	DATE ANALYZED:	05/12/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	10
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MC.REI TJF 06/21/95

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	5.00	U
11104-28-2	Aroclor 1221	5.00	U
11141-16-5	Aroclor 1232	5.00	U
53469-21-9	Aroclor 1242	7.76	
12672-29-6	Aroclor 1248	5.00	U
11097-69-1	Aroclor 1254	5.00	U
11096-82-5	Aroclor 1260	92.5	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-2,6.5,14
Matrix:	OIL,SED.	LAB SAMPLE ID:	952296A
Sample wt/vol	0.7085 (g)	LAB FILE ID:	952296A
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2100	DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	10
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NC.REI

TJFC(6/21/95)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	5.00	U
11104-28-2	Aroclor 1221	5.00	U
11141-16-5	Aroclor 1232	5.00	U
53469-21-9	Aroclor 1242	6.13	
12672-29-6	Aroclor 1248	5.00	U
11097-69-1	Aroclor 1254	5.00	U
11096-82-5	Aroclor 1260	108	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-3,6.5,11
Matrix:	ED.,OIL,WATER	LAB SAMPLE ID:	952297
Sample wt/vol	0.3348 (g)	LAB FILE ID:	952297
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401	DATE ANALYZED:	05/09/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	1
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MD.REI

weighed out less sample to get only oil

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.746	U
11104-28-2	Aroclor 1221	0.746	U
11141-16-5	Aroclor 1232	0.746	U
53469-21-9	Aroclor 1242	0.746	U
12672-29-6	Aroclor 1248	0.746	U
11097-69-1	Aroclor 1254	0.746	U
11096-82-5	Aroclor 1260	42.4	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-3,6.5,11
Matrix:	SED.,OIL,WATER	LAB SAMPLE ID:	952297A
Sample wt/vol	0.5151 (g)	LAB FILE ID:	952297A
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2100	DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	1
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595ND.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.746	U
11104-28-2	Aroclor 1221	0.746	U
11141-16-5	Aroclor 1232	0.746	U
53469-21-9	Aroclor 1242	0.746	U
12672-29-6	Aroclor 1248	0.746	U
11097-69-1	Aroclor 1254	0.746	U
11096-82-5	Aroclor 1260	48.6	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-4,1,5
Matrix:	SED.,LIQUID	LAB SAMPLE ID:	952298
Sample wt/vol	0.5215 (g)	LAB FILE ID:	952298
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401	DATE ANALYZED:	05/09/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	1
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\060695MD.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	12.8	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-4,1,5
Matrix:	OIL	LAB SAMPLE ID:	952298A
Sample wt/vol	0.5215 (g)	LAB FILE ID:	952298A
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2100	DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	1
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NE.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	14.2	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	FIELD BLANK
Matrix:	WATER	LAB SAMPLE ID:	952299
Sample wt/vol	0.250 (L)	LAB FILE ID:	952299
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	SEP-FUN	DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401	DATE ANALYZED:	05/09/95
Conc. Extract Volume:	10 (uL)	DILUTION FACTOR:	1
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\060695ME.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L)	Q
12674-11-2	Aroclor 1016	0.200	U
11104-28-2	Aroclor 1221	0.200	U
11141-16-5	Aroclor 1232	0.200	U
53469-21-9	Aroclor 1242	0.200	U
12672-29-6	Aroclor 1248	0.200	U
11097-69-1	Aroclor 1254	0.200	U
11096-82-5	Aroclor 1260	0.200	U

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	FIELD BLANK
Matrix:	WATER	LAB SAMPLE ID:	952299A
Sample wt/vol	0.250 (L)	LAB FILE ID:	952299A
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	SEP-FUN	DATE EXTRACTED:	04/25/95
GC Column:	SP-2100	DATE ANALYZED:	05/17/95
Conc. Extract Volume:	10 (uL)	DILUTION FACTOR:	1
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052695MA.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L)	Q
12674-11-2	Aroclor 1016	0.200	U
11104-28-2	Aroclor 1221	0.200	U
11141-16-5	Aroclor 1232	0.200	U
53469-21-9	Aroclor 1242	0.200	U
12672-29-6	Aroclor 1248	0.200	U
11097-69-1	Aroclor 1254	0.200	U
11096-82-5	Aroclor 1260	0.200	U

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-5,7,12.5
Matrix:	OIL	LAB SAMPLE ID:	952300
Sample wt/vol	0.7922 (g)	LAB FILE ID:	952300
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401	DATE ANALYZED:	05/09/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	10
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MG.REI TJF 6/20/95

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	5.00	U
11104-28-2	Aroclor 1221	5.00	U
11141-16-5	Aroclor 1232	5.00	U
53469-21-9	Aroclor 1242	9.63	
12672-29-6	Aroclor 1248	5.00	U
11097-69-1	Aroclor 1254	5.00	U
11096-82-5	Aroclor 1260	116	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.

ELAP ID No.:	11078	SDG No.:	042095REI
Matrix:	OIL	CLIENT ID:	TK-5,7.12.5
Sample wt/vol	0.7922 (g)	LAB SAMPLE ID:	952300A
% Moisture:		LAB FILE ID:	952300A
Extraction:	WASTE DILUTION	DATE RECEIVED:	04/20/95
GC Column:	SP-2100	DATE EXTRACTED:	04/25/95
Conc. Extract Volume:	25 (uL)	DATE ANALYZED:	05/17/95
Injection Volume:	2.5 (uL)	DILUTION FACTOR:	10
Method:	SW-846 8080 (PCB)	SULFUR CLEANUP:	Yes

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NF.REI

TJF (6/21/95)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	5.00	U
11104-28-2	Aroclor 1221	5.00	U
11141-16-5	Aroclor 1232	5.00	U
53469-21-9	Aroclor 1242	6.54	
12672-29-6	Aroclor 1248	5.00	U
11097-69-1	Aroclor 1254	5.00	U
11096-82-5	Aroclor 1260	109	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	042095REI
ELAP ID No.:	11078		CLIENT ID:	TK-6,7.5,9.5
Matrix:	OIL,SED.		LAB SAMPLE ID:	952301
Sample wt/vol	0.5017	(g)	LAB FILE ID:	952301
% Moisture:			DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION		DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401		DATE ANALYZED:	05/09/95
Conc. Extract Volume:	25	(uL)	DILUTION FACTOR:	1
Injection Volume:	2.5	(uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)			

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MH.REI TJF

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	20.500	U
11104-28-2	Aroclor 1221	20.500	U
11141-16-5	Aroclor 1232	20.500	U
53469-21-9	Aroclor 1242	20.500	U
12672-29-6	Aroclor 1248	20.500	U
11097-69-1	Aroclor 1254	20.500	U
11096-82-5	Aroclor 1260	28.6	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	042095REI
ELAP ID No.:	11078		CLIENT ID:	TK-6,7.5,9.5
Matrix:	OIL,SED.		LAB SAMPLE ID:	952301A
Sample wt/vol	0.5017	(g)	LAB FILE ID:	952301A
% Moisture:			DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION		DATE EXTRACTED:	04/25/95
GC Column:	SP-2100		DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25	(uL)	DILUTION FACTOR:	1
Injection Volume:	2.5	(uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)			

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NG.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	29.6	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.
ELAP ID No.: 11078
Matrix: SED.,OIL
Sample wt/vol 0.5446 (g)
% Moisture:
Extraction: WASTE DILUTION
GC Column: SP-2250/2401
Conc. Extract Volume: 25 (uL)
Injection Volume: 2.5 (uL)
Method: SW-846 8080 (PCB)

SDG No.: 042095REI
CLIENT ID: TK-7,6,14
LAB SAMPLE ID: 952302
LAB FILE ID: 952302
DATE RECEIVED: 04/20/95
DATE EXTRACTED: 04/25/95
DATE ANALYZED: 05/09/95
DILUTION FACTOR: 10
SULFUR CLEANUP: Yes
NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4
NEA File ID: S:\CERT\052595MI.REI

TJF (6/21/95)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	5.00	U
11104-28-2	Aroclor 1221	5.00	U
11141-16-5	Aroclor 1232	5.00	U
53469-21-9	Aroclor 1242	5.00	U
12672-29-6	Aroclor 1248	5.00	U
11097-69-1	Aroclor 1254	5.00	U
11096-82-5	Aroclor 1260	38.9	

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	042095REI
ELAP ID No.:	11078		CLIENT ID:	TK-7,6,14
Matrix:	SED.,OIL		LAB SAMPLE ID:	952302A
Sample wt/vol	0.5446	(g)	LAB FILE ID:	952302A
% Moisture:			DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION		DATE EXTRACTED:	04/25/95
GC Column:	SP-2100		DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25	(uL)	DILUTION FACTOR:	10
Injection Volume:	2.5	(uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)			

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NH.REI TJF (6/21/95)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	5.00	U
11104-28-2	Aroclor 1221	5.00	U
11141-16-5	Aroclor 1232	5.00	U
53469-21-9	Aroclor 1242	5.00	U
12672-29-6	Aroclor 1248	5.00	U
11097-69-1	Aroclor 1254	5.00	U
11096-82-5	Aroclor 1260	30.3	

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** Form based upon Form 1-CLP-PEST

FORM I-CLP-PCB (NEA)

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-8,9,11.5
Matrix:	SLUDGE,OIL	LAB SAMPLE ID:	952303
Sample wt/vol	0.6277 (g)	LAB FILE ID:	952303
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401	DATE ANALYZED:	05/09/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	1
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MJ.REI

TJF (6/21/95)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	4.42	

V

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-8,9,11.5
Matrix:	SLUDGE,OIL	LAB SAMPLE ID:	952303A
Sample wt/vol	0.6277 (g)	LAB FILE ID:	952303A
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2100	DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	1
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)	NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4	
		NEA File ID: S:\CERT\052595NI.REI	

TJF(6/21/95)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	3.29	

✓

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-9,6,8,12.5
Matrix:	OIL,SOLID	LAB SAMPLE ID:	952304
Sample wt/vol	0.5041 (g)	LAB FILE ID:	952304
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401	DATE ANALYZED:	05/09/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	1
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CAT5\CLP-1D.WK4

NEA File ID: S:\CERT\052595MK.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	0.500	U

** Form based upon Form 1-CLP-PEST

FORM I-CLP-PCB (NEA)

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.

ELAP ID No.:	11078
Matrix:	OIL,SOLID
Sample wt/vol	0.5041 (g)
% Moisture:	
Extraction:	WASTE DILUTION
GC Column:	SP-2100
Conc. Extract Volume:	25 (uL)
Injection Volume:	2.5 (uL)
Method:	SW-846 8080 (PCB)

SDG No.:	042095REI
CLIENT ID:	TK-9,6,8,12.5
LAB SAMPLE ID:	952304A
LAB FILE ID:	952304A
DATE RECEIVED:	04/20/95
DATE EXTRACTED:	04/25/95
DATE ANALYZED:	05/17/95
DILUTION FACTOR:	1
SULFUR CLEANUP:	Yes

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NJ.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	0.500	U

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.

ELAP ID No.:	11078	SDG No.:	042095REI
Matrix:	WATER,OIL	CLIENT ID:	TK-10,12,15
Sample wt/vol	0.1559 (g)	LAB SAMPLE ID:	952305
% Moisture:		LAB FILE ID:	952305
Extraction:	WASTE DILUTION	DATE RECEIVED:	04/20/95
GC Column:	SP-2250/2401	DATE EXTRACTED:	04/25/95
Conc. Extract Volume:	25 (uL)	DATE ANALYZED:	05/09/95
Injection Volume:	2.5 (uL)	DILUTION FACTOR:	1
Method:	SW-846 8080 (PCB)	SULFUR CLEANUP:	Yes

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595ML.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	1.60	U
11104-28-2	Aroclor 1221	1.60	U
11141-16-5	Aroclor 1232	1.60	U
53469-21-9	Aroclor 1242	1.60	U
12672-29-6	Aroclor 1248	1.60	U
11097-69-1	Aroclor 1254	1.60	U
11096-82-5	Aroclor 1260	1.60	U

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.			SDG No.:	042095REI
ELAP ID No.:	11078		CLIENT ID:	TK-10,12,15
Matrix:	WATER,OIL		LAB SAMPLE ID:	952305A
Sample wt/vol	0.1559	(g)	LAB FILE ID:	952305A
% Moisture:			DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION		DATE EXTRACTED:	04/25/95
GC Column:	SP-2100		DATE ANALYZED:	05/17/95
Conc. Extract Volume:	25	(uL)	DILUTION FACTOR:	1
Injection Volume:	2.5	(uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)			

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595NK.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	1.60	U
11104-28-2	Aroclor 1221	1.60	U
11141-16-5	Aroclor 1232	1.60	U
53469-21-9	Aroclor 1242	1.60	U
12672-29-6	Aroclor 1248	1.60	U
11097-69-1	Aroclor 1254	1.60	U
11096-82-5	Aroclor 1260	1.60	U

** Form based upon Form 1-CLP-PEST

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	042095REI
ELAP ID No.:	11078	CLIENT ID:	TK-15,4,9
Matrix:	WATER,OIL	LAB SAMPLE ID:	952306
Sample wt/vol	0.5832 (g)	LAB FILE ID:	952306
% Moisture:		DATE RECEIVED:	04/20/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	04/25/95
GC Column:	SP-2250/2401	DATE ANALYZED:	05/10/95
Conc. Extract Volume:	25 (uL)	DILUTION FACTOR:	1
Injection Volume:	2.5 (uL)	SULFUR CLEANUP:	Yes
Method:	SW-846 8080 (PCB)		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\052595MM.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g)	Q
12674-11-2	Aroclor 1016	0.500	U
11104-28-2	Aroclor 1221	0.500	U
11141-16-5	Aroclor 1232	0.500	U
53469-21-9	Aroclor 1242	0.500	U
12672-29-6	Aroclor 1248	0.500	U
11097-69-1	Aroclor 1254	0.500	U
11096-82-5	Aroclor 1260	1.32	

** Form based upon Form 1-CLP-PEST

DEXSIL
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

CERTIFICATE OF ANALYSIS

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY. 11211

Att: H.W. Detmers

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 08-03-1994 Samples Analyzed: 08-04-1994

Invoice #: 60764

Customer ID: Tank 1

Dexsil ID: DATS# 3105

Sample Type: Waste Oil

Concentration ppm (wt/wt): 10

Aroclor: 1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 08-09-1994

Approved Public Health Laboratory # PH0529
A2LA Accredited Laboratory # 0219-01

DEXSIL
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

CERTIFICATE OF ANALYSIS

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY, 11211

Att: H.W. Detmers

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 08-03-1994 Samples Analyzed: 08-04-1994

Invoice #: 60764

Customer ID: Tank 2

Dexsil ID: DATS# 3105

Sample Type: Waste Oil

Concentration ppm (wt/wt): 120

Aroclor: 1247/1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 08-09-1994

Approved Public Health Laboratory # PH0529
A2LA Accredited Laboratory # 0219-01

DEXSIL
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

CERTIFICATE OF ANALYSIS

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY 11211

Att: H.W. Dehmers

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 08-08-1994 Samples Analyzed: 08-08-1994

Invoice #: 60818

Customer ID: Tank # 1

Dexsil ID: DAT5# 3114,

Sample Type: Oil Water

Concentration ppm (wt/wt): 28

Aroclor: 1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 08-08-1994

Approved Public Health Laboratory # PH0529
A2LA Accredited Laboratory # 0219-01

DEXSIL
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

CERTIFICATE OF ANALYSIS

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY. 11211

Att: H.W. Detmers

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 08-03-1994 Samples Analyzed: 08-04-1994

Invoice #: 60764

Customer ID: Tank 4

Dexsil ID: DATS# 3105

Sample Type: Waste Oil

Concentration ppm (wt/wt): 1.9

Aroclor: 1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 08-09-1994

Approved Public Health Laboratory # PH0529
A2LA Accredited Laboratory # 0219-01

D E X S I L
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

C E R T I F I C A T E   O F   A N A L Y S I S

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY. 11211

Att: H.W. Detmers

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 08-03-1994 Samples Analyzed: 08-04-1994

Invoice #: 60764

Customer ID: Tank 5

Dexsil ID: DATS# 3105

Sample Type: Waste Oil

Concentration ppm (wt/wt): 130

Aroclors: 1242/1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 08-09-1994

Approved Public Health Laboratory # PH0529
A2LA Accredited Laboratory # 0219-01

DEXSIL
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

CERTIFICATE OF ANALYSIS

TO: BCF Oil Refining Inc.
350 Maspeth Avenue
Brooklyn, NY. 11211

Att: H.W. Detmers

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 08-03-1994 Samples Analyzed: 08-04-1994

Invoice #: 60764

Customer ID: Tank 6

Dexsil ID: DATS# 3105

Sample Type: Waste Oil

Concentration ppm (wt/wt): 31

Aroclor: 1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 08-09-1994

Approved Public Health Laboratory # PH0529
A2LA Accredited Laboratory # 0219-01

D E X S I L
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

C E R T I F I C A T E   O F   A N A L Y S I S

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY. 11211

Att: H.W. Detmers

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 08-03-1994 Samples Analyzed: 08-04-1994

Invoice #: 60764

Customer ID: Tank 7

Dexsil ID: DATS# 3105

Sample Type: Waste Oil

Concentration ppm (wt/wt): 48

Aroclor: 1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 08-09-1994

Approved Public Health Laboratory # PH0529
A2LA Accredited Laboratory # 0213-01

D E X S I L
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

C E R T I F I C A T E O F A N A L Y S I S

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY. 11211

Att: H.W. Detmers

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 08-08-1994 Samples Analyzed: 08-08-1994

Invoice #: 60616

Customer ID: Tank # 8

Dexsil ID: DAT# 3114

Sample Type: Oil Water

Concentration ppm (wt/wt): 8.8

Aroclor: 1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 08-08-1994

Approved Public Health Laboratory # PH0329
A2LA Accredited Laboratory # 0213-01

DEXSIL
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

CERTIFICATE OF ANALYSIS

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY 11211

Att: H.N. Detness

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 08-08-1994 Samples Analyzed: 08-08-1994

Invoice #: 60816

Customer ID: Tank # 9

Dexsil ID: DATS# 3114

Sample Type: Oil Water

Concentration ppm (wt/wt): 2.1

Aroclor: 1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew E. Lynn, Chemist
Date Reported: 08-08-1994

Approved Public Health Laboratory # PH0329
A2LA Accredited Laboratory # 0319-01

D E X S I L
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

C E R T I F I C A T E O F A N A L Y S I S

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY. 11211

Att: H.W. Detmers

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 08-03-1994 Samples Analyzed: 08-04-1994

Invoice #: 60064

Customer ID: Tank 10

Dexsil ID: OATS# 3108

Sample Type: Waste Oil

Concentration ppm (wt/wt): 5.8

Aroclor: 1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 08-09-1994

Approved Public Health Laboratory # PH0529
A2LA Accredited Laboratory # 0219-01

DEXSIL
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

CERTIFICATE OF ANALYSIS

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY 11211

Attn: H.M. Dethera

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 08-09-1994 Samples Analyzed: 08-09-1994

Invoice #: 60846

Customer ID: Tank #117

Dexsil ID: DATS# 3117

Sample Type: Waste Oil

Concentration ppm (wt/wt): 530

Aroclor: 1242/1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 08-09-1994

Approved Public Health Laboratory # PH0529
A2LA Accredited Laboratory # 0219-01

D E X S I L
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

C E R T I F I C A T E O F A N A L Y S I S

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY. 11211

Att:

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 05-19-1994 Samples Analyzed: 05-20-1994

Invoice #: 59684

Customer ID: Tank 12 25

Dexsil ID: DATS# 2952

Sample Type: Oil

Concentration ppm (wt/wt): 150

Aroclor: 1242/1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 05-26-1994

Approved Public Health Laboratory # PH0529
A2LA Accredited Laboratory # 0219-01

DEXSIL
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

CERTIFICATE OF ANALYSIS

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY. 11211

Att: H.W. Detmers

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 07-13-1994 Samples Analyzed: 07-14-1994

Invoice #: 60444

Customer ID: #14

Dexsil ID: DATS# 3058

Sample Type: Oil

Concentration ppm (wt/wt): 460

Aroclor: 1242/1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 07-15-1994

Approved Public Health Laboratory # PH0529
A2LA Accredited Laboratory # 0219-01

DEXSIL
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

CERTIFICATE OF ANALYSIS

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY. 11211

Att: H.W. Detmers

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 08-03-1994 Samples Analyzed: 08-04-1994

Invoice #: 60764

Customer ID: Tank 15

Dexsil ID: DATS# 3105

Sample Type: Waste Oil

Concentration ppm (wt/wt): 1.0

Aroclor: 1258

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 08-09-1994

Approved Public Health Laboratory # PH0529
A2LA Accredited Laboratory # 0219-01

DEXSIL
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

CERTIFICATE OF ANALYSIS

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY. 11211

Att: H.W. Detmers

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 08-03-1994 Samples Analyzed: 08-04-1994

Invoice #: 60764

Customer ID: Tank 16

Dexsil ID: DATS# 3105

Sample Type: Waste Oil

Concentration ppm (wt/wt): 2.3

Aroclor: 1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 2 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 08-09-1994

Approved Public Health Laboratory # PH0529
A2LA Accredited Laboratory # 0219-01

DEXSIL
ANALYTICAL LABORATORY
ONE HAMDEN PARK DRIVE
HAMDEN, CT 06517
(203)288-3509

CERTIFICATE OF ANALYSIS

TO: BCF Oil Refining Inc.
360 Maspeth Avenue
Brooklyn, NY. 11211

Att: H.W. Detmers

CERTIFICATION:

Dexsil Corporation hereby certifies that the following sample, as received, was tested for polychlorinated biphenyl using gas chromatography.

Samples Received: 07-13-1994 Samples Analyzed: 07-14-1994

Invoice #: 60444

Customer ID: #17

Dexsil ID: DATS# 3058

Sample Type: Oil

Concentration ppm (wt/wt): 10

Aroclor: 1260

Method Used: EPA METHOD 600/4-81-045

Limit of detection: 1 ppm (wt/wt)

Andrew C. Lynn, Chemist
Date Reported: 07-15-1994

Approved Public Health Laboratory # PH0529
A2LA Accredited Laboratory # 0219-01

Appendix C

Data Validation Summary
Method 8080
January 1995 Sampling

PCB Data Validation Summary
BCF Oil Refining
Brooklyn, New York
Analytical Laboratory: Northeast Analytical, Inc.
Sample Delivery Group 012695REI

PCB results for four (4) oil samples with matrix QC from BCF Oil Refining were reviewed to evaluate the data quality. Data were assessed in accordance with criteria from the EPA Region II document CLP Organics Review and Preliminary Review (SOP No. HW-6, Revision #8, January 1992), where applicable, and the New York State Department of Environmental Conservation Analytical Services Protocol (December 1991) Category B Deliverables for the analysis of PCBs by EPA Method 8080. This validation pertains to the following samples collected by Rust Environment & Infrastructure personnel on January 25, 1995.

TANK 11 20'
TANK 11 20' MS
TANK 11 20' MSD
TANK 11 30'
TANK 14 20'
TANK 14 30'

The following items/criteria applicable to the samples listed above were reviewed:

- Case Narrative
- Deliverable Requirements
- Holding Times and Sample Preparation
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Data
- Instrument and Method Blank Summaries
- Instrument Calibration

The above items were compliant with EPA Method 8080 QC criteria with the exception of the items discussed below. The data have been validated according to the above procedures and qualified as described in the following text.

Deliverable Requirements

These samples have been analyzed in accordance with EPA Method 8080. Therefore, dual column analysis is not required as it is for USEPA CLP and NYSDEC ASP PCB analysis. Please note that the chromatograms submitted by the laboratory do not suggest the need for second column confirmation of the results reported due to the quality of the chromatograms submitted.

Please note that pages 97 through 120 appear out of sequence in the laboratory report. These pages belong between pages 73 and 74 and page 121 should follow immediately after page 96. The order of the pages in the raw data was corrected during data validation, although the page numbers were not adjusted.

The laboratory Case Narrative stated that the samples were initially extracted on February 1, 1995 and analyzed on February 7, 1995. The preparation blank for this extraction apparently exhibited contamination with Aroclor 1242 (see the **Holding Times and Sample Preparation** section for further information). The samples were then reextracted on February 10, 1995 and analyzed on February 11. The laboratory Case Narrative stated that the instrument blank and initial calibration standard for this analysis exhibited a non-PCB pattern in the chromatograms which the laboratory attributed to a contaminant from the GC autovial. The entire analytical sequence was repeated on February 16, 1995 and it is this data which has been reported by the laboratory. Data from previous analyses has not been submitted.

Holding Times and Sample Preparation

9

The samples were collected on January 25, 1995 and delivered to the laboratory on January 26, 1995. Initial preparation of the samples occurred on February 1, 1995 but, as explained in the laboratory Case Narrative, the preparation blank exhibited Aroclor 1242 at a concentration of 10.4 ug/g (ppm). The laboratory reextracted the samples on February 10, 1995 two ~~(2)~~ days outside of the specified holding time of ~~14~~ days. This slight holding time exceedance is not considered to be significant, however, and no data have been qualified based upon this nonconformance. Please note that positive PCB results were obtained for the samples, and although the holding time exceedance may indicate a potential low bias, PCB identification would not be affected.

7

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Data

Sample TANK 11 20' was selected for MS/MSD analysis, and the MS/MSD data meets all applicable QC criteria. Furthermore, the sample, MS and MSD results reported for Aroclor 1260 (summarized below) indicate excellent agreement.

	TANK 11 20'	TANK 11 20' MS	TANK 11 20' MSD
Aroclor 1260	440	532	515

All results expressed in ug/g (ppm).

Summary

No reasons were found during data validation to qualify any of the results reported. In summary, based on 28 sample data points, none of which were qualified as estimated, and none qualified as unusable, the usability of this data package is 100%.

Anthony M. Nocé	24 FEBRUARY 95
Reviewed By	Date
[illegible]	3/6/95
Approved By	Date

	YES	NO	N/A

EPA METHOD 8080 -
PCB ANALYSIS ONLY

PART C: PESTICIDE/PCB ANALYSIS

1.0 Traffic Reports and Laboratory Narrative

1.1 Are Traffic Report Forms present for all samples? [✓] ___ ___

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the Traffic Reports or SDG Narrative indicate any problems with sample receipt, condition of the samples, analytical problems or special circumstances affecting the quality of the data? ___ [✓] ___

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be qualified as estimated (J). If a soil sample, other than TCLP, contains more than 90% water, all data should be qualified as unusable (R).

ACTION: If samples were not iced upon receipt at the laboratory, flag all positive results "J" and all non-detects "UJ".

2.0 Holding Times

2.1 Have any PEST/PCB technical holding times, determined from date of collection to date of extraction, been exceeded? ~~14 DAYS~~ ECF ✓ [ ] ___

Water and soil samples for PEST/PCB analysis must be extracted within 7 days of the date of collection. Extracts must be analyzed within 40 days of the date extraction.

	YES	NO	N/A

ACTION: If technical holding times are exceeded, flag all positive results as estimated (J) and sample quantitation limits (UJ) and document in the narrative that holding times were exceeded. If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re-analysis, the reviewer must use professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all the data should at least be qualified "J", but the reviewer may determine that non-detects are unusable (R).

3.0 Surrogate Recovery (Form II)

3.1 Are the PEST/PCB Surrogate Recovery Summaries (Form II) present for each of the following matrices?

	YES	NO	N/A
a. Low Water	[ ]	___	✓
b. Soil OIL	[✓]	___	___

3.2 Are all the PEST/PCB samples listed on the appropriate Surrogate Recovery Summary for each of the following matrices?

	YES	NO	N/A
a. Low Water	[ ]	___	✓
b. Soil OIL	[✓]	___	___

ACTION: Call lab for explanation/resubmittals. If missing deliverables are unavailable, document effect in data assessments.

	YES	NO	N/A
3.3 Were outliers marked correctly with an asterisk?	[ ]	___	✓

ACTION: Circle all outliers in red.

	YES	NO	N/A
3.4 Were surrogate recoveries of TCX or DCB outside of the contract specification for any sample or blank? (60-150%)	___	[✓]	___

YES NO N/A

ACTION: No qualification is done if surrogates are diluted out. If recovery for both surrogates is below the contract limit, but above 10%, flag all results for that sample 'J". If recovery is < 10% for either surrogate, qualify positive results 'J" and flag non-detects "R". If recovery is above the contract advisory limits for both surrogates qualify positive values "J".

3.5 Were surrogate retention times (RT) within the windows established during the initial 3-point analysis of Individual Standard Mixture A? [ ] ___ ✓

ACTION: If the RT limits are not met, the analysis may be qualified unusable (R) for that sample on the basis of professional judgement.

3.6 Are there any transcription/calculation errors between raw data and Form II? ___ [✓] ___

ACTION: If large errors exist, call lab for explanation/resubmittal. Make any necessary corrections and document effect in data assessments.

4.0 Matrix Spikes (Form III)

4.1 Is the Matrix Spike/Matrix Spike Duplicate Recovery Form (Form III) present? [✓] ___ ___

4.2 Were matrix spikes analyzed at the required frequency for each of the following matrices? (1 MS/MSD must be performed for every 20 samples of similar matrix or concentration level)

a. Low Water [ ] ___ ✓

b. Soil Oil [✓] ___ ___

ACTION: If any matrix spike data are missing, take the action specified in 3.2 above.

YES NO N/A

4.3 How many PEST/PCB spike recoveries are outside QC limits? A 1242

Water		Soil	
Ø	out of ~~12~~ 2	N/A	out of 12

4.4 How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?

Water		Soil	
Ø	out of ~~6~~ 1	N/A	out of 6

ACTION: No action is taken on MS/MSD data alone. However, using informed professional judgement, the data reviewer may use the matrix spike and matrix spike duplicate results in conjunction with other QC criteria and determine the need for some qualification of the data.

5.0 Blanks (Form IV)

5.1 Is the Method Blank Summary (Form IV) present? [√] ___ ___

5.2 Frequency of Analysis: For the analysis of Pesticide/PCB TCL compounds, has a reagent/method blank been analyzed for each SDG or every 20 samples of similar matrix or concentration or each extraction batch, whichever is more frequent? [√] ___ ___

ACTION: If any blank data are missing, take the action specified above in 3.2. If blank data is not available, reject (R) all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

5.3 Has a PEST/PCB instrument blank been analyzed at the beginning of every 12 hr. period following the initial calibration sequence? (minimum contract requirement)

YES NO N/A

ACTION: If any blank data are missing, call lab for explanation/resubmittals. If missing deliverables are unavailable, document the effect in data assessments.

5.4 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for PEST/PCBs?

ACTION: Use professional judgement to determine the effect on the data.

6.0 Contamination

NOTE: "Water blanks", "distilled water blanks" and "drilling water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

6.1 Do any method/instrument/reagent/cleanup blanks have positive results for PEST/PCBs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample Dilution Factor and corrected for % moisture when necessary.

6.2 Do any field/rinse blanks have positive PEST/PCB results?

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case or one per day) may be used to qualify data. Blanks may not be qualified because of contamination in another blank. Field blanks must be qualified for surrogate, or calibration QC problems.

YES NO N/A

ACTION: Follow the directions in the table below to qualify TCL results due to contamination. Use the largest value from all the associated blanks.

Sample conc > CRQL but < 5x blank	Sample conc < CRQL & is < 5x blank value	Sample conc > CRQL & > 5x blank value
Flag sample result with a "U";	Report CRQL & qualify "U"	No qualification is needed

NOTE: If gross blank contamination exists, all data in the associated samples should be qualified as unusable (R).

6.3 Are there field/rinse/equipment blanks associated with every sample? [ ] ___ ✓

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

7.0 Calibration and GC Performance

7.1 Are the following Gas Chromatograms and Data Systems Printouts for both columns present for all samples, blanks, MS/MSD?

	YES	NO	N/A
a. peak resolution check	[ ]	___	✓
b. performance evaluation mixtures	[ ]	___	✓
c. aroclor 1016/1260	[✓]	___	___
d. aroclors 1221 ✓, 1232 ✓, 1242 ✓, 1248 ✓, 1254 ✓	[✓]	___	___
e. toxaphene	[ ]	___	✓
f. low points individual mixtures A & B	[ ]	___	✓
g. med points individual mixtures A & B	[ ]	___	✓
h. high points individual mixtures A & B	[ ]	___	✓

	YES	NO	N/A
i. instrument blanks	[√]	___	___

ACTION: If no, take action specified in 3.2 above.

	YES	NO	N/A
7.2 Are Forms VI - PEST 1-4 present and complete for each column and each analytical sequence?	[ ]	___	√

ACTION: If no, take action specified in 3.2 above.

	YES	NO	N/A
7.3 Are there any transcription/calculation errors between raw data and Forms VI?	___	[√]	___

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and document effect in data assessments.

	YES	NO	N/A
7.4 Do all standard retention times, including each pesticide in each level of Individual Mixtures A & B, fall within the windows established during the initial calibration analytical sequence? (For Initial Calibration Standards, Form VI - PEST - 1).	[√]	___	___

ACTION: If no, all samples in the entire analytical sequence are potentially affected. Check to see if the chromatograms contain peaks within an expanded window surrounding the expected retention times. If no peaks are found and the surrogates are visible, non-detects are valid. If peaks are present and cannot be identified through pattern recognition or using a revised RT window, qualify all positive results and non-detects as unusable (R).
For aroclors, RT may be outside the RT window, but the aroclor may still be identified from the individual pattern.

	YES	NO	N/A
7.5 Are the linearity criteria for the initial analyses of Individual Standards A & B within limits for both columns? (% RSD must be < 20.0% for all analytes except for the 2 surrogates, which must not exceed 30.0 % RSD). See Form VI PEST - 2.	[√]	___	___

YES NO N/A

ACTION: If no, qualify all associated positive results generated during the entire analytical sequence "J" and all non-detects "UJ". When RSD >90%, flag all non-detect results for that analyte R (unusable).

7.6 Is the resolution between any two adjacent peaks in the Resolution Check Mixture > 60.0% for both columns? (Form VI-PEST - 4) [ ] ___ √

ACTION: If no, positive results for compounds that were not adequately resolved should be qualified "J". Use professional judgement to determine if non-detects which elute in areas affected by co-eluting peaks should be qualified "N" as presumptive evidence of presence or unusable (R).

7.7 Is Form VII - Pest-1 present and complete for each Performance Evaluation Mixture analyzed during the analytical sequence for both columns? [ ] ___ √

ACTION: If no, take action as specified in 3.2 above.

7.8 Has the individual % breakdown exceeded 20.0% on either column. ___ [ ] √

- for 4,4' - DDT? ___ [ ] √

- for endrin? ___ [ ] √

Has the combined % breakdown for 4,4'- DDT/ Endrin exceeded 30.0% on either column? (required in all instances) ___ [ ] √

ACTION: 1. If any % breakdown has failed the QC criteria in either PEM in steps 2 and 17 in the initial calibration sequence (p. D-38/Pest SOW 3/90), qualify all sample analyses in the entire analytical sequence as described below.

YES NO N/A

2. If any % breakdown has failed the QC criteria in a PEM Verification calibration, review data beginning with the samples which followed the last in-control standard until the next acceptable PEM & qualify the data as described below.

a. 4,4'-DDT Breakdown: If 4,4'-DDT breakdown is greater than 20.%:

   i. Qualify all positive results for DDT with 'J". If DDT was not detected, but DDD and DDE are positive, then qualify the quantitation limit for DDT as unusable (R).

   ii. Qualify positive results for DDD and/or DDE as presumptively present at an approximated quantity (NJ).

b. Endrin Breakdown: If endrin breakdown is greater than 20.0%:

   i. Qualify all positive results for endrin with "J". If endrin was not detected, but endrin aldehyde and endrin ketone are positive, then qualify the quantitation limit for endrin as unusable (R).

   ii. Qualify positive results for endrin ketone and endrin aldehyde as presumptively present at an approximated quantity (NJ).

c. Combined Breakdown: If the combined 4,4'-DDT and endrin breakdown is greater than 30.0%:

   i. Qualify all positive results for DDT and endrin with "J". If endrin was not detected, but endrin aldehyde and endrin ketone are positive, then qualify the quantitation limit for endrin as unusable (R). If DDT was not detected, but DDD and DDE are positive, then qualify the quantitation limit for DDT as unusable (R).

	YES	NO	N/A
ii. Qualify positive results for endrin ketone and endrin aldehyde as presumptively present at an approximated quantity (NJ). Qualify positive results for DDD and/or DDE as presumptively present at an approximated quantity (NJ).			
7.9 Are the relative percent difference (RPD) values for all PEM analytes <25.0%? (Form VII-PEST-1)	[ ]	___	✓

ACTION: If no, qualify all associated positive results generated during the analytical sequence "J" and sample quantitation limits "UJ".

NOTE: If the failing PEM is part of the initial calibration. all samples are potentially affected. If the offending standard is a verification calibration, the associated samples are those which followed the last in-control standard until the next passing standard.

	YES	NO	N/A
7.10 Have all samples been injected within a 12 hr. period beginning with the injection of an Instrument Blank?	[✓]	___	___

ACTION: If no, use professional judgement to determine the severity of the effect on the data and qualify accordingly.

	YES	NO	N/A
7.11 Is Form VII - Pest-2 present and complete for each INDA and INDB Verification Calibration analyzed?	[ ]	___	✓

ACTION: If no, take action specified in 3.2 above.

	YES	NO	N/A
7.12 Are there any transcription/calculation errors between raw data and Form VII - Pest-2?	___	[ ]	✓

ACTION: If large errors exists, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments. under "Conclusions".

	YES	NO	N/A
7.13 Do all standard retention times for each INDA and INDB Verification Calibration fall within the windows established by the initial calibration sequence?	[ ]	___	√

ACTION: If no, beginning with the samples which followed the last in-control standard, check to see if the chromatograms contain peaks within an expanded window surrounding the expected retention times. If no peaks are found and the surrogates are visible, non-detects are valid. If peaks are present and cannot be identified through pattern recognition or using a revised RT window, qualify all positive results and non-detects as unusable (R).

	YES	NO	N/A
7.14 Are RPD values for all verification calibration standard compounds < 25.0%?	[ ]	___	√

ACTION: If the RPD is >25.0% for the compound being quantitated, qualify all associated positive results "J" and non-detects "UJ". The "associated samples" are those which followed the last in-control standard up to the next passing standard containing the analyte which failed the criteria. If the RPD is >90%, flag all non-detects for that analyte R (unusable).

8.0 Analytical Sequence Check (Form VIII-PEST)

	YES	NO	N/A
8.1 Is Form VIII present and complete for each column and each period of analyses?	[√]	___	___

ACTION: If no, take action specified in 3.2 above.

	YES	NO	N/A
8.2 Was the proper analytical sequence followed for each initial calibration and subsequent analyses? (see CLP SOW p. D-39 & D-41/PEST)	[√]	___	___

ACTION: If no, use professional judgement to determine the severity of the effect on the data and qualify it accordingly. Generally, the effect is negligible unless the sequence was grossly altered or the calibration was also out of limits.

	YES	NO	N/A

9.0 Cleanup Efficiency Verification (Form IX)

	YES	NO	N/A
9.1 Is Form IX - Pest-1 present and complete for each lot of Florisil Cartridges used? (Florisil Cleanup is required for all Pest/PCB extracts.)	[ ]	___	✓

ACTION: If no, take action specified in 3.2 above. If data suggests that florisil cleanup was not performed, make note in "Contract Problems/Non-Compliance".

	YES	NO	N/A
9.2 Are all samples listed on the Pesticide Florisil Cartridge Check Form?	[ ]	___	✓

ACTION: If no, take action specified in 3.2 above.

	YES	NO	N/A
9.3 If GPC Cleanup was performed, (mandatory for all soil sample extracts) is Form IX - Pest-2 present?	[ ]	___	✓

ACTION: If no, take action specified in 3.2 above.

ACTION: If GPC was not performed when required, make note in" Contract Problems/Non-Compliance" section of data assessment.

9.4 Are percent recoveries (% R) of the pesticide and surrogate compounds used to check the efficiency of the cleanup procedures within QC limits:

	YES	NO	N/A
80-120% for florisil cartridge check?	[ ]	___	✓
80-110% for GPC calibration?	[ ]	___	✓

Qualify only the analyte(s) which fail the recovery criteria as follows:

ACTION: If % R are < 80%, qualify positive results "J" and quantitation limits "UJ". Non-detects should be qualified "R" if zero %R was obtained for pesticide compounds. Use professional judgement to qualify positive results if recoveries are greater than the upper limit.

YES NO N/A

NOTE: Sample data should be evaluated for potential interferences if recovery of 2,4,5-trichlorophenol was > 5% in the Florisil Cartridge Performance Check analysis. Make note in Contract Problems/ Non-Compliance section of reviewer narrative.

NOTE: The raw data of the GPC Calibration Check analysis is evaluated for pattern similarity with previously run Aroclor standards.

10.0 Pesticide/PCB Identification

10.1 Is Form X complete for every sample in which a pesticide or PCB was detected? [ ] ___ ✓

ACTION: If no, take action specified in 3.2 above.

10.2 Are there any transcription/calculation errors between raw data and Forms 6E, 6G, 7E, 7D, 8D, 9A, B, 10A. ___ [ ] ✓

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and note error under "Conclusions".

10.3 Are retention times (RT) of sample compounds within the established RT windows for both analyses? [ ] ___ ✓

Was GC/MS confirmation provided when required (when compound concentration is > 10 ug/ml in final extract)? [ ] ___ ✓

Action: Use professional judgement to qualify positive results which were not confirmed by GC/MS. Qualify as unusable (R) all positive results which were not confirmed by second GC column analysis. Also qualify as unusable (R) all positive results not meeting RT window unless associated standard compounds are similarly biased. (see Functional Guidelines) The reviewer should use professional judgement to assign an appropriate quantitation limit.

	YES	NO	N/A
10.4 Is the percent difference (% D) calculated for the positive sample results on the two GC columns < 25.0%?	[ ]	___	✓

ACTION: If the reviewer finds neither column shows interference for the positive hits, the data should be flagged as follows:

% Difference	Qualifier
25-50 %	J
50-90 %	JN
> 90 %	R

NOTE: The lower of the two values is reported on Form I. If using professional judgement, the reviewer determines that the higher result was more acceptable, the reviewer should replace the value and indicate the reason for the change in the data assessment.

	YES	NO	N/A
10.5 Check chromatograms for false negatives, especially the multiple peak compounds toxaphene and PCBs. Were there any false negatives?	___	[✓]	___

ACTION: Use professional judgement to decide if the compound should be reported. If the appropriate PCB standards were not analyzed, qualify the data unusable (R).

11.0 Compound Quantitation and Reported Detection Limits

	YES	NO	N/A
11.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Were any errors found?	___	[✓]	___

NOTE: Single-peak pesticide results can be checked for rough agreement between quantitative results obtained on the two GC columns. The reviewer should use professional judgement to decide whethera much larger concentration obtained on one column versus the other indicates the presence of an interfering compound. If an interfering compound is indicated, the lower of the two values should be reported and qualified as presumptively present at an approximated quantity (NJ). This necessitates a determination of an estimated concentration on the confirmation column. The narrative should indicate that the presence of interferences has interfered with the evaluation of the second column confirmation.

	YES	NO	N/A
11.2 Are the CRQLs adjusted to reflect sample dilutions and, for soils, % moisture?	[✓]	___	___

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one dilution, the lowest CRQLs are used (unless a QC exceedance dictates the use of the higher CRQL data from the diluted sample analysis). Replace concentrations that exceed the calibration range in the original analysis by crossing out the "E" value on the original Form I and substituting it with data from the analysis of diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's that should not be used, including any in the summary package.

ACTION: Quantitation limits affected by large, off-scale peaks should be qualified as unusable (R). If the interference is on-scale, the reviewer can provide an approximated quantitation limit (UJ) for each affected compound.

12.0 Chromatogram Quality

	YES	NO	N/A
12.1 Were baselines stable?	[✓]	___	___
12.2 Were any electropositive displacement (negative peaks) or unusual peaks seen?	___	[✓]	___

ACTION: Address comments under System Performance of data assessment.

	YES	NO	N/A
13.0 Field Duplicates			
13.1 Were any field duplicates submitted for PEST/PCB analysis?	[ ]	___	✓

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, identification of field duplicates should be confirmed by contacting the sampler.

Organic Data Qualifiers

U - The compound was analyzed for but not detected at or above the quantitation limit indicated.

J - The compound was analyzed for and determined to be present in the sample because the mass spectrum of the compound meets the identification criteria of the method. The concentration reported is an estimated value, less than the practical quantitation limit for the sample.

B - The compound is also found in an associated blank.

V - The reported value is considered estimated due to variance from quality control criteria

S - The reported value is suspected to be due to laboratory contamination.

R - The reported value is unusable and rejected due to variance from quality control criteria.

D - The reported value is taken from the analysis of a diluted sample.

E - The reported value exceeds the calibration range of the instrument.

N - Indicates presumptive evidence for compound identification.

A - Indicates that the compound is an aldol condensation product.

C - Compound identification has been qualitatively confirmed by GC/MS.

P - Indicates that the percent difference between the results from the two analytical columns is greater than 25%.

1D-1**
PCB ANALYSIS DATA SHEET

Northeast Analytical Inc.		SDG No.:	012695REI
ELAP ID No.:	11078	CLIENT ID:	TANK 11 20FT.
Matrix:	OIL	LAB SAMPLE ID:	R950447
Sample wt/vol	0.5119 (g) ✓	LAB FILE ID:	R950447
% Moisture:		DATE RECEIVED:	01/26/95
Extraction:	WASTE DILUTION	DATE EXTRACTED:	02/10/95 16 days
GC Column:	SUPELCO 2-0843	DATE ANALYZED:	02/16/95 ✓
Conc. Extract Volume:	25000 (uL) ✓	DILUTION FACTOR:	20 ✓
Injection Volume:	4 (uL) ✓	SULFUR CLEANUP:	YES ✓
Method:	SW-846 8080 (PCB) ✓		

NEA Form ID: S:\FORMS\CATB\CLP-1D.WK4

NEA File ID: S:\CERT\021795MD.REI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/g) (PPM)	Q
12674-11-2	Aroclor 1016	10.0	U
11104-28-2	Aroclor 1221	10.0	U
11141-16-5	Aroclor 1232	10.0	U
53469-21-9	Aroclor 1242 ✓	✓ 51.7	
12672-29-6	Aroclor 1248	10.0	U
11097-69-1	Aroclor 1254	10.0	U
11096-82-5	Aroclor 1260 ✓	440	

cmn
24FEB95

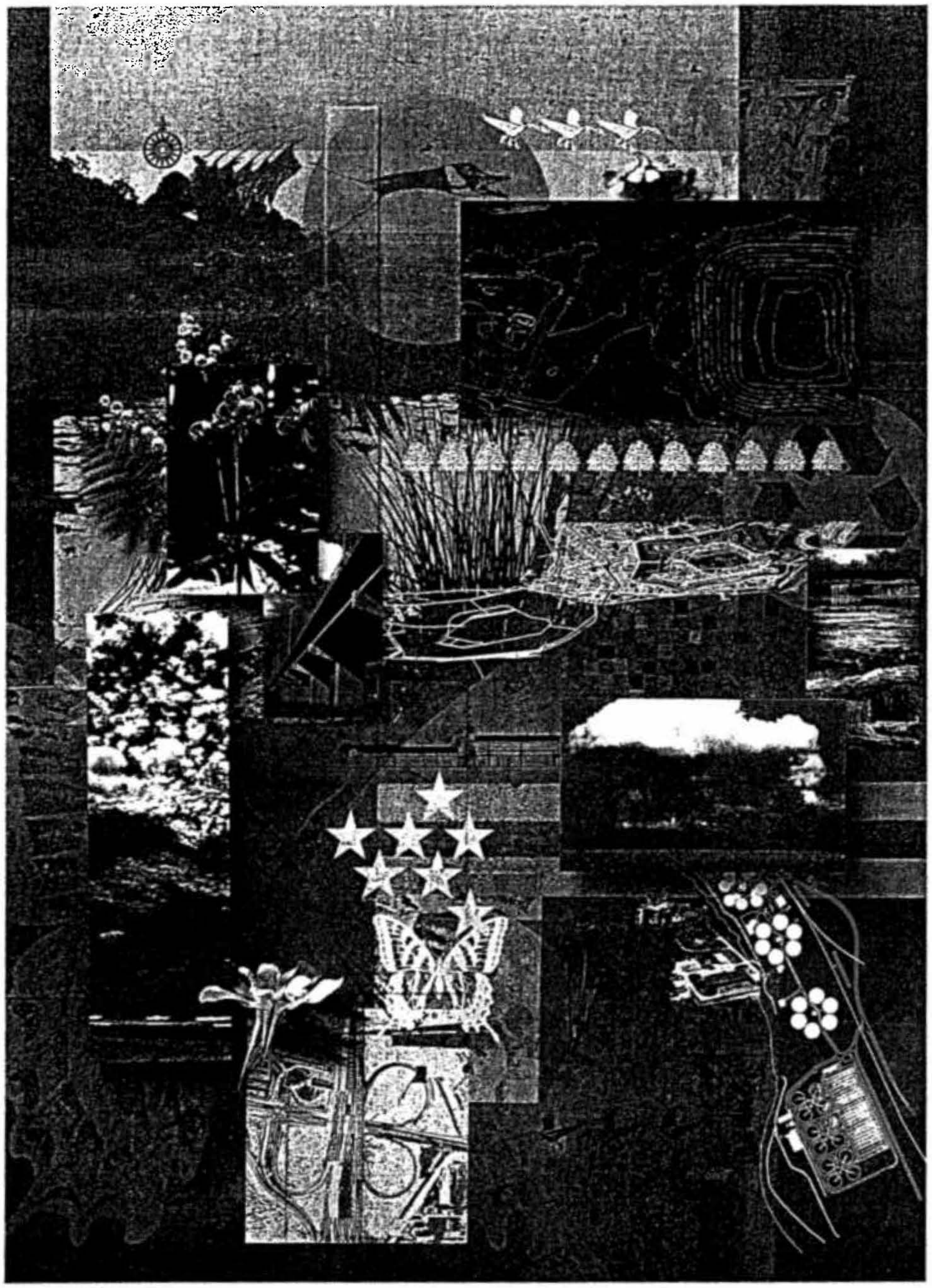
** Form based upon Form 1-CLP-PEST

RUST

Rust Environment & Infrastructure

BCF 1.4 0187

Quality • Integrity • Creativity • Responsiveness



PRELIMINARY SUBSURFACE INVESTIGATION B.C.F. OIL REFINING FACILITY

Prepared for:

B.C.F. Oil Refining, Inc.
360 Maspeth Avenue
Brooklyn, New York 11211

Prepared by:

Rust Environment &
Infrastructure
12 Metro Park Road
Albany, New York 12205

June, 1998

Quality through teamwork

Rust Environment & Infrastructure

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APPENDICES

1.0 INTRODUCTION

1.1 Background

The B.C.F. Oil Refining Facility occupies an approximately 1.85 acre site on the north bank of the Newtown Creek in Brooklyn, New York (Figure 1). When it was in active operation, the Facility processed various waste oils, tank bottoms and oily water mixtures to produce a fuel oil that was sold for use in commercial boilers. It is bordered on the south by the Newtown Creek, on the east by a gasoline and fuel oil distribution terminal, on the north by Maspeth Avenue and then the Brooklyn Union Gas Company, and on the west by light manufacturing and industrial supply facilities.

Based on historical Sanborn Map Company fire insurance maps, the majority of the site was created sometime after 1907 by filling an embayment on the shore of the Newtown Creek. By 1933 the site was occupied by a petroleum distribution terminal. In approximately 1980 the terminal was modified for use as a waste oil processing facility. The Facility was sold to its current owner in 1985.

The principle features of the Facility (Figure 2) consist of:

1) ten 20,000 gallon heated, steel underground tanks (nos. 1-10) used for oil/water separation and temporary storage, processing and blending of waste materials;

2) a 150,000 gallon heated, steel underground tank, divided into two chambers (tank nos. 15 and 16), used for heating waste materials and separation of solids and water;

3) a two-story, masonry structure housing vibratory screening equipment for filtering solids;

4) a tank-farm, consisting of four heated, 110,000 gallon vertical aboveground tanks (nos. 11, 12, 14, 17) within a concrete secondary containment dike, used for storage of finished product;

5) a loading rack located on Maspeth Avenue for dispensing product to fuel distributors; and

6) single-story masonry structures housing offices, a testing laboratory, and steam generating boilers for heating the tanks.

During operation, incoming waste materials were first tested to determine that they met the requirements of the Facility's Part 360 Permit, which prohibited the intake of regulated hazardous wastes or materials containing polychlorinated biphenyl compounds (PCBs). After testing, the incoming materials were off-loaded into one of several underground tanks for processing. The materials were heated to induce separation of water and solids, filtered in the screen house, and blended to create a fuel oil similar in performance characteristics to a Number 6 Fuel Oil.

In addition to testing of incoming waste materials, B.C.F. also conducted weekly testing of its finished product to insure that it did not contain PCBs or unpermitted levels of halogenated solvents.

Under its SPDES permit, B.C.F. was permitted to discharge water through its oil/water separator into Newtown Creek. Accordingly, B.C.F.'s customers sometimes delivered oily water to be processed and appropriately disposed of.

In April of 1994, the contents of B.C.F.'s tanks were inadvertently contaminated by PCBs. Records maintained by BCF and subsequent chemical testing indicate that the contamination was probably caused by a single delivery of un-tested, oily water that contained an unnoticed quantity of PCB transformer oil. The contamination was discovered in the course of BCF's weekly testing of its processed oil. By the time the PCB discovery was confirmed and operations ceased, the contamination had been circulated into most of the underground and aboveground tanks. The facility has been closed since that time, maintaining only a minimal work force for security and maintenance of the premises.

After the facility closed, Rust Environment & Infrastructure conducted several series of tests on the contents of BCF's tanks to determine the chemical identity of the contamination. The testing revealed the presence of PCBs in all but two of the tanks (nos. 9, 10) at concentrations ranging from 1 to 520 ppm. Only two Aroclors, 1242 and 1260, were identified. These particular Aroclors are two of the three Aroclors that were typically used in the formulation of PCB transformer dielectric fluid before its manufacture was prohibited under TSCA.

Rust also performed volatile and semivolatile analyses of the oil in one of the finished product tanks that contained the highest concentration of PCBs. This testing reveled the presence of two isomers of trichlorobenzene, a compound formerly used in conjunction with PCBs in formulating dielectric fluid. Also present at concentrations ranging from 1 to 61 ppm were isomers of dichlorobenzene and a number of halogenated solvents, including trichloroethylene, tetrachloroethylene, 1,1,1-trichloroethane, dichlorodifluoromethane, and trichlorofluoromethane.

1.2 Study Objectives

The purpose of this investigation was to preliminarily characterize the nature of any subsurface soil and groundwater contamination that could have resulted from the long history of industrial use of the subject property or from releases of contaminants on adjoining properties. Such potential contamination could include petroleum hydrocarbon compounds found in the petroleum products stored at the site when it was a fuel terminal and in the waste oil processed there in recent history. The potential contamination might also include non-petroleum constituents that have been identified in the waste oil in the BCF tanks, including the aforementioned PCBs, chlorobenzene compounds, and halogenated solvents.

The study focused on the sampling of soil at locations that were accessible to a drilling rig and adjacent to oil processing and storage areas. Groundwater samples were collected from monitoring wells that were installed prior to 1993 as a condition of the Facility's Major Petroleum Facility License.

Map Reference
NYSDOT 7.5 minute series
Brooklyn Quadrangle, Rev. 1975

Figure 1 – Location Map

Rust Environment & Infrastructure Inc.

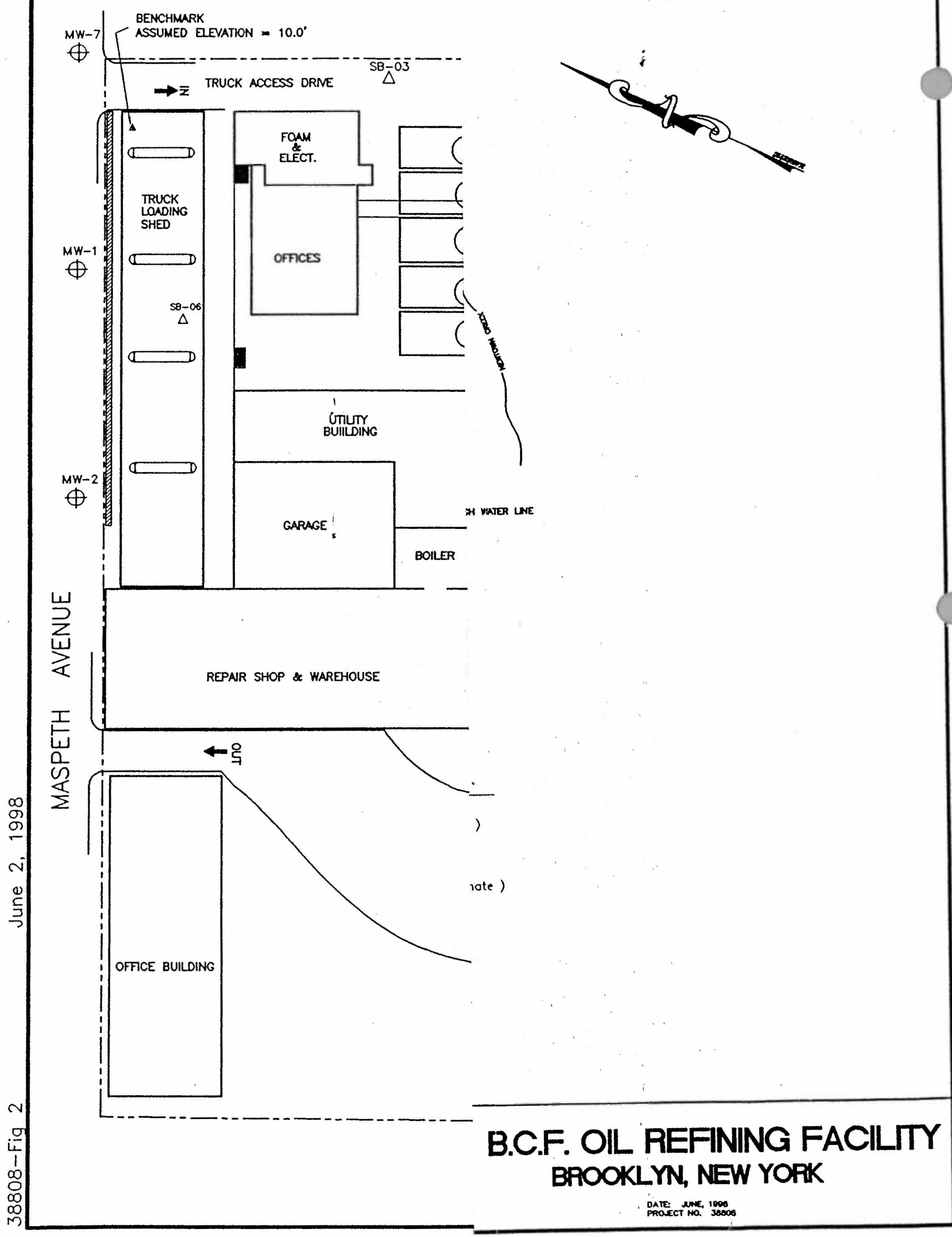
B.C.F. OIL REFINING FACILITY
360 MASPETH AVENUE
BROOKLYN, NEW YORK 11211

JUNE 1998

38808.10000

June 2, 1998

388087-Fig 1



B.C.F. OIL REFINING FACILITY
BROOKLYN, NEW YORK

DATE: JUNE, 1998
PROJECT NO. 38808

2.0 METHODS OF INVESTIGATION

This section describes the methods and materials used in conducting this investigation. Locations of soil borings and monitoring wells are shown on Figure 2.

2.1 Soil Sampling

Soil samples were collected from six soil boring locations using a direct-push (Geoprobe) rig and a MacroCore sampler. This sampler is an open tube design and measures approximately 2" in diameter by 48" long. The sampler is fitted with a removable cutting shoe and a clear, disposable acetate liner which contains the soil core. Samples were collected at intervals from 0' to 4', 4' to 8', 8' to 12' and 12' to 16' below grade. All reusable down-hole equipment was decontaminated before each boring by washing in tap water and Liquinox detergent, and then rinsing first with tap water and then with deionized water.

Boring Locations

An initial boring was attempted southeast of the screen house, approximately 50 feet from the shoreline. The presence of buried concrete rubble in this location prevented completion of this boring. An employee of BCF stated that the land between the screen house and the shoreline was created entirely from pavement rubble imported during the 1970s for the purpose of expanding the usable area of the site.

Boring SB-01 was located as close as practicable to the shoreline, near the southeast corner of the 150,000 gallon underground process tank (nos. 15, 16).

Borings SB-02 and SB-03 were located in the driveway along the east side of the Facility, adjacent to the 20,000 gallon process tanks.

Boring SB-04 was located near the southeast corner of the finished product tank farm, adjacent to the pipelines extending from the tank farm to the dock.

Boring SB-05 was located adjacent to the west wall of the tank farm's secondary containment dike.

Boring SB-06 was located beneath the truck loading racks, adjacent to the loading dock.

Soil Screening and Sampling

Upon retrieval of each core sample, the acetate sleeve containing the soil was removed from the MacroCore and the ends of the sleeve were capped to contain the soil. The sleeve was brought to the BCF office for inspection. Prior to opening the sleeve, the contents were screened with a Photoionization Detector (PID) for the presence of volatile organic compounds (VOCs). The screening was accomplished by puncturing the acetate sleeve at approximate 1 foot intervals, inserting the tip of the PID into the sleeve, and recording the maximum VOC concentration. After screening, the acetate sleeve was opened by slitting it longitudinally. The inspector recorded the length of the recovered soil core, the texture of the soil, and noted the presence of visual and olfactory evidence of contamination.

In each boring a sample consisting of the 1 foot interval at the interface between the saturated and unsaturated zone was submitted for laboratory analysis. This zone was selected because it is where liquid hydrocarbon (LHC) would be most likely to accumulate. In one boring (SB-02), an additional sample was submitted from a shallow interval that evidenced higher levels of contamination in the form of elevated PID readings. In boring SB-05, an additional sample was submitted from an interval in the saturated zone that contained entrained LHC. Samples were placed in laboratory supplied containers, placed on ice in coolers, and shipped under chain of custody to Phoenix Environmental Laboratories, Manchester, Connecticut.

Requested analyses consisted of Volatile Organic Compounds (VOCs) by USEPA SW-846 Method 8021 (full parameter list), Polynuclear Aromatic Hydrocarbons (PAHs) by USEPA SW-846 Method 8270 (NYSDEC STARS parameters only), and PCBs by USEPA SW-846 Method 8082.

2.2 Water Levels and Liquid Hydrocarbon Gauging

The riser elevations of the seven on-site monitoring wells were surveyed to enable comparison of water elevations between wells. The existence of an eighth well (MW-8), reportedly located on the opposite side of Maspeth Avenue, was not known to Rust at the time of the this field investigation. A benchmark on the east end of the concrete pad under the loading rack was assigned an arbitrary elevation of 10.0 feet. Each PVC well riser was surveyed relative to this benchmark.

The depth to water or LHC was measured using an ORS, Inc. petroleum interface probe. The presence of any petroleum product sheen or film floating on top of the water in the well was noted. The total depth of the well was also measured.

2.3 Groundwater Sampling

Groundwater samples were collected for analysis from monitoring wells MW-4, MW-5 and MW-7. Prior to collecting the sample from each well, the well was purged of three well volumes of water by bailing with a dedicated, disposable polyethylene bottom-loading bailer connected to nylon line. The purge water was collected in five gallon pails and transferred to Tank Number 2.

After purging, groundwater samples were collected with the same bailer used for purging. No petroleum product or other materials that could significantly affect the chemical composition of the groundwater samples were noted on the bailers. Two VOA vials and three one-liter bottles were filled using a spigot placed in the check valve at the bottom of the bailer. Samples were placed on ice in a cooler and submitted to Phoenix Environmental Laboratories, Manchester, Connecticut.

Requested analyses consisted of Volatile Organic Compounds (VOCs) by USEPA SW-846 Method 8021 (full parameter list), PAHs by USEPA SW-846 Method 8270 (NYSDEC STARS parameters only), and PCBs by USEPA SW-846 Method 8082.

A sample of LHC was collected from MW-1 using a dedicated, disposable polyethylene bottom-loading bailer connected to nylon line. The well was not purged before prior to collecting this sample. The sample was placed in a single VOA vial, placed on ice in a cooler and submitted to Phoenix Environmental Laboratories for PCB analysis by SW-846 Method 8082.

3.0 RESULTS

This section presents the results of the soil and groundwater sampling and analysis, and the water level measurement data.

3.1 Soil Characteristics and Analytical Results

A detailed record of the soil characteristics and related observations for each soil boring is presented in the boring logs contained in Appendix A. In general, the borings encountered an upper fill layer consisting of a variable mixture of fine to medium sand, fine to medium gravel, ash, slag and bricks. Below this fill layer was a zone of sand and clayey, sandy silt. The top of this zone was generally shallower in the interior of the site (SB-02, SB-03) than near the Newtown Creek (SB-01). The saturated zone was generally encountered about 6 to 8 feet below surface.

Visual and olfactory evidence of petroleum contamination was observed in each boring. These observations were confirmed by the laboratory analytical results, which are summarized in Table 1. No halogenated volatile organic compounds were detected in any boring. The specific details of the contamination encountered in each boring are discussed below:

SB-01

Relatively low PID readings (0-38 ppm) and no visible contamination characterized the interval from surface to the saturated zone at approximately 11 feet. At this depth a light sheen was noted. Below the top of the saturated zone, PID readings increased to 221 - 1142 ppm, with heavy petroleum odors and visible LHC.

No VOCs were detected in the soil sample from 11-12 feet. Methyl Tert-Butyl Ether (MTBE), a common unleaded gasoline additive, was detected below the practical quantitation limit (PQL) of 20 ppb. A total of seven PAH compounds were detected at 450-590 ppb. No PCB Aroclors were detected.

SB-02

Elevated PID readings (728-1046 ppm) were encountered approximately 2-3 feet below surface. A sample of this interval was submitted for Method 8021 analysis only. A range of volatile petroleum-derived constituents were identified at concentrations ranging from 25-190 ppb; no halogenated compounds (solvents) were detected.

Table 1
BCF Oil Refining
Soil/Groundwater/Product Results

	SB-01 11-12'	SB-02 2-3'	SB-02 6-7'	SB-03 6-7'	SB-04 6-7'	SB-05 6-7'	SB-05 12-13'	SB-06 6-9'	MW-1 OIL	MW-4 WATER	MW-5 WATER	MW-7 WATER
Volatiles (SW-846 8021)												
1,2,4-trimethylbenzene	<5	65	<500	<1300	<25	400	350	<1000		<5	200	33
1,3,5-trimethylbenzene	<5	43	<500	8400	<25	<250	<250	<1000		<5	110	<10
Benzene	<5	25	<500	<1300	<25	<250	<250	<1000		37	1200	540
Ethylbenzene	<5	61	<500	<1300	<25	<250	<250	<1000		<5	230	180
Isopropylbenzene	<5	93	1300	7200	<25	<250	<250	9000		10	80	150
n-Butylbenzene	<5	33	4400	21000	<25	1200	590	16000		<5	<50	<10
n-Propylbenzene	<5	180	4800	31000	<25	<250	<250	28000		12	240	70
Napthalene	<5	46	570	18000	26	930	<250	2700		<5	<50	200
o- Xylene	<5	34	<500	<1300	<25	<250	<250	<1000		<5	<50	26
p&m- Xylene	<5	190	640	3000	<25	<250	<250	<1000		9	220	20
p-Isopropyltoluene	<5	<25	<500	2800	<25	<250	<250	1700		<5	<50	<10
sec-Butylbenzene	<5	<25	1800	5700	38	420	<250	6300		<5	<50	<10
Toluene	<5	49	1300	<1300	<25	500	530	2300		180	100	18
MTBE	BDL20	<20	<100	BDL 2500	<20	BDL250	<50	<200		<5	<50	BDL50
STARS PAHs (SW-846 8270)												
acenaphthene	<330		2200	5300	<330	<1650	470	1800		<8	<8	<10
anthracene	<330		3400	13000	<330	2400	<330	1700		<8	<8	<10
benzo (a) anthracene	500		5400	18000	1500	5500	<330	1300		<31	<31	<37
benzo (a) pyrene	470		3200	5900	1500	4200	<330	930		<10	<10	<12
benzo (b) fluoranthene	590		3800	11000	1600	4800	<330	1100		<19	<19	<23
benzo (ghi) perylene	<330		1100	220	1100	<1650	<330	<330		<10	<10	<12
benzo (k) fluoranthene	<330		2200	2700	760	<1650	<330	<330		<10	<10	<12
chrysene	460		3900	12000	1600	5700	<330	1500		<10	<10	<12
dibenzo (a,h) anthracene	<330		<330	830	<330	<1650	<330	<330		<10	<10	<12
fluoranthene	470		6900	28000	1500	3100	<330	2100		<8	<8	<10
fluorene	<330		3000	610	<330	2700	630	2200		<8	<8	<10
indeno (1,2,3-cd) pyrene	<330		1400	2300	990	<1650	<330	490		<10	<10	<12
naphthalene	<330		<330	1300	<330	4300	<330	<330		<6	<6	<7
phenanthrene	790		13000	55000	1700	12000	1600	8500		<22	<22	<26
pyrene	450		5800	20000	1200	5600	440	2100		<8	<8	<10
PCBs (SW-846 8082)												
Aroclor 1016	<80		<160	<400	<80	<80	<80	<80	<1000	<1	<1	<1
Aroclor 1221	<80		<160	<400	<80	<80	<80	<80	<1000	<1	<1	<1
Aroclor 1232	<80		<160	<400	<80	<80	<80	<80	<1000	<1	<1	<1
Aroclor 1242	<80		<160	<400	<80	<80	<80	<80	<1000	<1	<1	<1
Aroclor 1248	<80		<160	<400	<80	<80	<80	<80	<1000	<1	<1	<1
Aroclor 1254	<80		570	1600	<80	<80	<80	<80	<1000	<1	<1	<1
Aroclor 1260	<80		<160	<400	<80	<80	<80	<80	<1000	<1	<1	<1
Aroclor 1262	<80		<160	<400	<80	<80	<80	<80	<1000	<1	<1	<1
Aroclor 1268	<80		<160	<400	<80	<80	<80	<80	<1000	<1	<1	<1

All results reported in ug/kg (ppb).
< Not Detected
BDL Below Detection Limit

BCF 1.4 0197

At approximately 7 feet below surface the saturated zone was encountered together with a layer of black-stained sand and a strong, fuel oil-like odor. PID readings ranged from 280-1400 ppm. Most of the soil core below 8 feet consisted of soil sloughed from the borehole walls. The PID reading for the in-situ soil that was recovered was 650 ppm.

Laboratory analysis of the soil sample from 6-7 feet revealed the presence of seven petroleum derived VOCs at concentrations of 570 to 4800 ppb. Thirteen PAH compounds were identified at concentrations of 1100 to 13000 ppb. Aroclor 1254 was reported at 570 ppb (0.57 ppm). This is below the NYSDEC recommended subsurface (below 1 foot) cleanup level of 10.0 ppm. None of the other nine PCB Aroclors were detected.

SB-03

Elevated PID readings (2480-2672 ppm), together with a VOC-like odor were encountered in the upper 4 feet of this boring. At approximately 7 feet below surface the saturated zone was encountered. Elevated PID readings (1790-2240 ppm) continued through the saturated zone to the bottom of the boring at 12 feet.

Laboratory analysis of the soil sample from 6-7 feet revealed the presence of eight petroleum derived VOCs at concentrations of 2800 to 31000 ppb. No halogenated compounds (solvents) were detected. MTBE was detected below the PQL of 2500 ppb. Fifteen PAH compounds were identified at concentrations of 220 to 55000 ppb. Aroclor 1254 was reported at 1600 ppb (1.6 ppm). This is below the NYSDEC recommended subsurface (below 1 foot) cleanup level of 10.0 ppm. None of the other nine PCB Aroclors were detected.

SB-04

Relatively low PID readings (0-92 ppm) were encountered in the upper 4 feet of this boring, through the saturated interval beginning at approximately 7 feet below surface, to the bottom of the boring at 12 feet.

Laboratory analysis of the soil sample from 6-7 feet revealed the presence of only two petroleum derived VOCs at 26 and 38 ppb. Ten PAH compounds were identified at concentrations of 760 to 1500 ppb. No PCB Aroclors were detected.

SB-05

Relatively low PID readings (0-67 ppm) were encountered in the upper 4 feet of this boring, through the saturated interval beginning at approximately 7 feet below surface, to a depth of approximately 12 feet. LHC and a strong petroleum odor were noted at the interface between the saturated and unsaturated zone. The saturated interval below 12 feet contained visible LHC and produced higher PID readings (228-561 ppm).

Laboratory analysis of the soil sample from the interface between the saturated and unsaturated zone (6 to 7 feet) reveled the presence of five petroleum derived VOCs at 400-1200 ppb. MTBE was reported below the PQL of 250 ppb. Ten PAH compounds were identified at concentrations of 2400 to 12000 ppb. No PCB Aroclors were detected.

Laboratory analysis of the soil sample from the saturated zone (12 to 13 feet) revealed slightly lower levels of contamination: three petroleum derived VOCs at 400-1200 ppb and four PAH compounds at 440 to 1600 ppb. No PCB Aroclors were detected.

SB-06

Elevated PID readings (greater than 500 ppm) were encountered from the interval immediately below the concrete loading rack pad, through the interface with the saturated zone at approximately 7 feet. Heavy petroleum odors and LHC were noted at the top of the saturated zone.

Laboratory analysis of the soil sample from the interface between the saturated and unsaturated zone (8 to 9 feet) revealed relatively high concentrations (1700 - 28000 ppb) of seven petroleum derived VOCs. Eleven PAH compounds were identified at concentrations of 490 to 8500 ppb. No PCB Aroclors were detected.

3.2 Water Levels

The elevations of the monitoring well risers and measurements of water level / LHC thickness are summarized below in Table 2.

Table 2 Groundwater Level and LHC Measurements - May 8, 1998

(all measurements in feet)

Monitoring Well	Riser Elevation (assumed datum)	Elevation of Water or LHC	LHC Thickness	Total Well Depth
MW-1	9.41	1.95 (LHC)	3.74	NM
MW-2	9.57	1.95	possible film	20.50
MW-3	13.15	7.73	possible film	18.95
MW-4	14.55	9.37	possible film	20.65
MW-5	12.95	2.68	possible film	20.33
MW-6	13.63	4.49	tarry substance	NM
MW-7	9.71	1.18	0	19.15

NM - not measured

Monitoring well MW-1, located at the edge of Maspeth Avenue adjacent to the loading racks, contained approximately 3.74 feet of brown-colored LHC having a consistency similar to Number

2 Oil. The interface probe was inconclusive with respect to the presence of any LHC in monitoring wells MW-2, -3, -4, and -5. In each of these wells, the probe only sporadically signaled the presence of LHC, suggesting either that the probe was being fouled by unidentified matter floating in the well or that a thin film of LHC had accumulated in the wells. No sheen or other conclusive evidence of LHC was observed on the probe after withdrawing it from these wells. Monitoring well MW-6 contained a viscous, dark-brown to black petroleum substance which fouled the interface probe and prevented accurate measurement of the petroleum/water interface. Monitoring well MW-7 exhibited no evidence of LHC presence.

Figure 3 depicts the piezometric surface of the unconfined aquifer (water table) as it was measured on May 8, 1998. The data were collected during a period of sustained precipitation, and may reelect higher than normal recharge conditions on the site. The equipotential lines (contour lines) have been inferred from the measured groundwater elevations. In general, the piezometric surface appears to be higher in the interior of the site, and slopes downward towards Newtown Creek and Maspeth Avenue. Based on these very limited data, groundwater would be expected to flow along lines perpendicular to the equipotential lines, toward Maspeth Avenue and Newtown Creek.

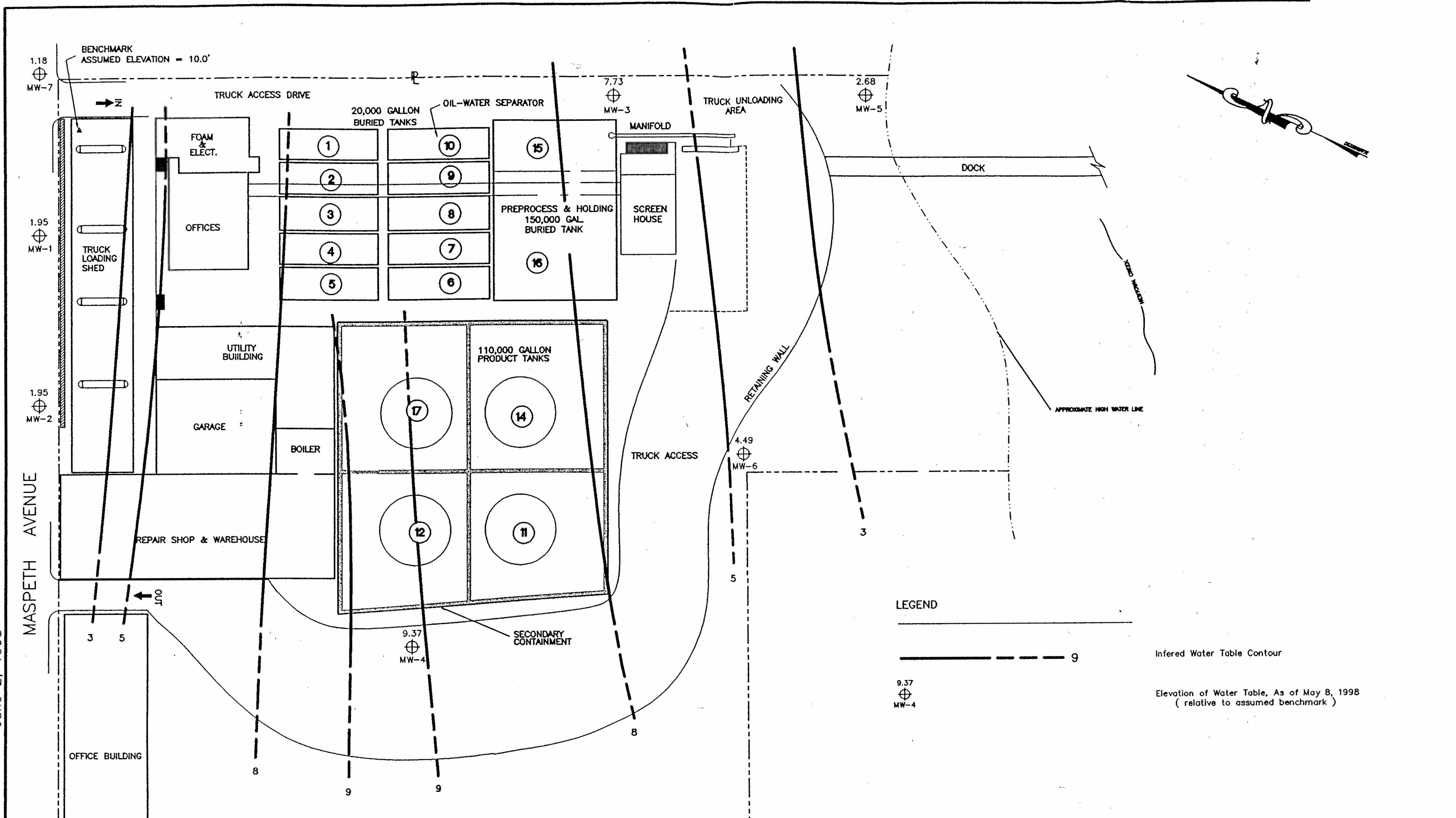


Figure 3 — Water Table Contours

RUST
Rust Environment & Infrastructure Inc.

B.C.F. OIL REFINING FACILITY
BROOKLYN, NEW YORK

DATE: JUNE, 1998
PROJECT NO. 38808

3.3 Groundwater and Product Analytical Results

The Method 8021 analyses of groundwater samples from monitoring wells MW-4, MW-5 and MW-7 revealed the presence of a number of petroleum derived VOC's at concentrations ranging from 9 to 1200 ppb. The highest concentrations of VOCs were found in MW-5, which appears to be downgradient from a portion of the BCF facility. This same well is located only a few feet from the adjoining property on the east, which is presently occupied by a gasoline distribution facility.

MTBE was detected in well MW-7 below the PQL of 50 ppb. MW-7 may be located downgradient from the adjacent gasoline distribution facility.

No PAH compounds were detected in any of the water samples. These compounds are relatively insoluble in water. The absence of PAH compounds in the groundwater samples is evidence that the wells are not impacted by non-aqueous phase petroleum contamination (LHC).

No PCB Aroclors were detected in the water samples. The sample of LHC from MW-1 was analyzed for PCB Aroclors only. None were detected at the method detection limit (MDL) of 1000 ppb (1 ppm).

4.0 CONCLUSIONS

The chemical analytical results of this investigation indicate that the sampled areas have not been impacted by the contamination that was inadvertently introduced into BCF's processing system in 1994. No PCB Aroclors of the types found in BCF's tanks were detected in the soil or groundwater samples. Only very low (0.5 to 1.6 ppm) concentrations of a different Aroclor were found in two soil samples from beneath the roadway leading into the facility. These concentrations are well below the NYSDEC recommended subsurface cleanup level of 10 ppm. None of the halogenated organic compounds (chlorinated solvents, chlorobenzenes, and chloro-fluorocarbon compounds) found in BCF's system have been identified in the soil or groundwater samples. Such halogenated substances are comparatively mobile due to their volatility and relatively high solubility in groundwater, and could have migrated to the monitoring wells and soil sampling locations if they had been released in sufficient quantity.

Petroleum hydrocarbon contamination of varying characteristics was found in a number of locations. The contamination is present in the non-aqueous phase (i.e. LHC) and is retained in the saturated and unsaturated zones. The physical and chemical properties of the contamination at these different locations suggest a number of different sources and an extended history of releases. The following observations support this conclusion:

- The ratios of the many chemical compounds that comprise petroleum products are highly variable, indicating different sources of contamination or different degrees of aging. For example, the total concentration of VOC's in the soil from SB-06 is nearly three times the total concentration of PAH compounds in that sample. At all other locations, the total concentration of VOC's is less than the total concentration of PAH compounds.

- VOC concentrations are extremely low or absent in borings SB-01 and SB-04, suggesting that the petroleum residues present at these locations are highly weathered.

- The analyses indicate the presence of low, unquantified levels of MTBE in soil and groundwater at several locations. MTBE has only been in general use as a gasoline additive since the early 1980s, and thus would not have originated from historical petroleum terminal operations on the site. BCF did not accept gasoline for processing. The prevalence of industrial and fuel distribution activity in the areas surrounding BCF suggests the possibility of impact by an off-site release of gasoline.

LHC in the vicinity of MW-1 appears to be present in mobile quantities capable of migrating through the soil above the water table. In other areas, LHC appears to be present at residual saturation and therefore unable to migrate in the non-aqueous phase. The LHC trapped below the water table at soil boring SB-05 is an example of such contamination.

The extent to which petroleum contamination may be migrating onto or away from the BCF site can not be assessed without more complete understanding of the groundwater dynamics at the site. Groundwater flow is influenced by a number of factors, including the presence of sewers, buried gas pipelines and the tidal fluctuation of Newtown Creek. The water table beneath the site is expected to fluctuate vertically under the tidal influence of Newtown Creek. The single round of groundwater elevation measurements conducted during this investigation suggests a temporal gradient toward Maspeth Avenue. This gradient may lessen or even reverse direction during low tide or certain seasonal conditions.

Appendix A

Soil Boring Logs

RUST E&I Albany, NY (518) 458-1313	Test Boring Log			Boring No. SB01
PROJECT: B.C.F. Oil Recycling Facility				Sheet 1 of 1
CLIENT: Stillman, et al				Job No. 38808.10000
DRILLING CONTRACTOR: ZEBRA Environmental Corp.				Meas. Pt. Elev.: Grade
PURPOSE: Supplemental Soil Borings				Ground Elev.: --
DRILLING METHOD: Direct Push		SAMPLE	CORE	CASING / Datum: --
DRILL RIG TYPE: Geoprobe	TYPE	Macro core		– / Date Started: 5/8/98
WATER DEPTH: est. 7.0	DIAM.	2"		– / Date Finished: 5/8/98
MEAS. PT.: Grade	WEIGHT			Driller: Kirk Balderas
DATE OF MEAS.: -- 5/8/98	FALL			Inspector: K. McGrath

Depth (Feet)	Sample Number	OVA	Lab ID	USCS	GEOLOGIC DESCRIPTION	REMARKS
0–1	S-1	ND			0-0.42 Very loose, dry, light gray, mostly medium to fine SAND, little fine gravel, trace(+) silt. (concrete) 0.42	26" rec
1–2		ND			0.42-1.00 Loose, damp, brown to orange, mostly medium to fine SAND. 1.00	
2–3		ND				
3–4		ND				
4–5	S-2	32			1.00-15 Medium dense, damp to wet, brown, mostly medium to fine SAND, trace(+) silt	26" rec
5–6		ND				
6–7		14				
7–8		12				
8–9	S-3	38			do; occ bits of brick and debris	19" rec - odor - visible contamination
9–10		4				
10–11		ND				▼ est. 11.0
11–12		15	SB01(11-12)			
12–13	S-4	338			do.	29" rec
13–14		454			- ½" layer of loose, wet, orange SAND	
14–15		221			15.0	
15–16		1142			15-16 Very loose, wet, gray fine SAND, and silt 16.0	- Very strong odor - visible contamination
16					End Boring @ 16.0 bgs	
17						
18						
19						
20						

RUST E&I Albany, NY (518) 458-1313	**Test Boring Log**	Boring No. SB02
PROJECT: B.C.F. Oil Recycling Facility		Sheet 1 of 1
CLIENT: Stillman, et al		Job No. 38808.10000
DRILLING CONTRACTOR: ZEBRA Environmental Corp.		Meas. Pt. Elev.: Grade
PURPOSE: Supplemental Soil Borings		Ground Elev.: --

		SAMPLE	CORE	CASING	
DRILLING METHOD: Direct Push		SAMPLE	CORE	CASING	Datum: --
DRILL RIG TYPE: Geoprobe	TYPE	Macro core		–	Date Started: 5/8/98
WATER DEPTH: est. 7.0'	DIAM.	2"		–	Date Finished: 5/8/98
MEAS. PT.: Grade	WEIGHT				Driller: Kirk Balderas
DATE OF MEAS.: -- 5/8/98	FALL				Inspector: K. McGrath

Depth (Feet)	Sample Number	OVA	Lab ID	USCS	GEOLOGIC DESCRIPTION	REMARKS
0–1	S-1	728			0 - 0.75 Loose, dry, white, SILT (concrete dust) 0.75	24" rec
1–2		1046			0.75 – > 2.0	
2–3		288	SB02(2-3)		Somewhat stiff, moist, dark brown, medium to fine SAND, little (-) SILT, trace (+) medium to fine Gravel,	
3–4		966			occ layers of white sand >2.0	
4–5	S-2	1400			4.0 - 6.16	34" rec
5–6		480			Very loose, wet, gray, coarse to mostly medium SAND, trace (-) medium to fine gravel 6.16	- Strong odor - 7" black stain 5.42 - 6.00'
6–7		460	SB02(6-7)		6.16 - 12.0	est. 7.0'
7–8		280			Somewhat Stiff, wet, gray, Clayey-SILT, with fine Sand; low plasticity	
8–9	S-3	1870			do:	38" rec
9–10		1790				
10–11		1898				
11–12		1650			12.0	
12					End Boring @ 12.0 dbg	
13						
14						
15						
16						
17						
18						
19						
20						

RUST E&I Albany, NY (518) 458-1313	Test Boring Log			Boring No. SB03
PROJECT: B.C.F. Oil Recycling Facility				Sheet 1 of 1
CLIENT: Stillman, et al				Job No. 38808.10000
DRILLING CONTRACTOR: ZEBRA Environmental Corp.				Meas. Pt. Elev.: Grade
PURPOSE: Supplemental Soil Borings				Ground Elev.: NA
DRILLING METHOD: Direct Push	SAMPLE	CORE	CASING	Datum: NA
DRILL RIG TYPE: Geoprobe	TYPE: Macro core		–	Date Started: 5/8/98
WATER DEPTH: est 7.0'	DIAM.: 2"		–	Date Finished: 5/8/98
MEAS. PT.: Grade	WEIGHT:			Driller: Kirk Balderas
DATE OF MEAS.: 5/8/98	FALL:			Inspector: K. McGrath

Depth (Feet)	Sample Number	OVA	Lab ID	USCS	GEOLOGIC DESCRIPTION	REMARKS
	S-1				0-0.42 concrete dust	27" rec
1		2265			0.42- >1.84	- Strong odor
2		2480			Loose, damp, black fly ash and Slag	
3		2482				
4		2672				
5	S-2	>500			4.0-6.16 Loose, wet, brown, coarse to mostly medium to fine SAND, trace (-) fine gravel 6.16	38" rec
6		>500				
7		>500	SB03(6-7)		6.16-12.0 Somewhat stiff, wet, clayey-SILT, abundant debris	est. 7.0
8		>500				
9	S-3	1860			do: trace to little fine gravel increasing in size and quantity with depth	44" rec
10		2240				
11		1880				
12		1790			12.0	
13					End Boring @ 12.0	
14						
15						
16						
17						
18						
19						
20						

RUST E&I Albany, NY (518) 458-1313	Test Boring Log				Boring No. SB04
PROJECT: B.C.F. Oil Recycling Facility					Sheet 1 of 1
CLIENT: Stillman, et al					Job No. 38808.10000
DRILLING CONTRACTOR: ZEBRA Environmental Corp.					Meas. Pt. Elev.: Grade
PURPOSE: Supplemental Soil Borings					Ground Elev.: NA
DRILLING METHOD: Direct Push		SAMPLE	CORE	CASING	Datum: NA
DRILL RIG TYPE: Geoprobe	TYPE	Macro core		–	Date Started: 5/8/98
WATER DEPTH: est. 7.0'	DIAM.	2"		–	Date Finished: 5/8/98
MEAS. PT.: Grade	WEIGHT				Driller: Kirk Balderas
DATE OF MEAS.: 5/8/98	FALL				Inspector: K. McGrath

Depth (Feet)	Sample Number	OVA	Lab ID	USCS	GEOLOGIC DESCRIPTION	REMARKS
0–1	S-1	1			0-0.75 ASPHALT (0.75) 0.75-4.80: Very loose, moist, mostly medium to fine SAND, and medium to fine Gravel: abundant brick	28" rec
1–2		1				
2–3		22				
3–4		57				
4–5	S-2	52			(4.80) 4.80-16.0: Somewhat stiff, wet, brown, fine SAND, and SILT	25" rec -Strong odor
5–6		ND				
6–7		26	SB04(6-7)			est. 7.0'
7–8		92				
8–9	S-3	ND				22" rec
9–10		ND				
10–11		ND				
11–12		ND				
12–13	S-4	ND				28" rec
13–14		ND				
14–15		ND				
15–16		ND			(16.0)	
16–17					End Boring @ 16.0	
17–18						
18–19						
19–20						

RUST E&I Albany, NY (518) 458-1313	Test Boring Log			Boring No. SB05
PROJECT: B.C.F. Oil Recycling Facility				Sheet 1 of 1
CLIENT: Stillman, et al				Job No. 38808.10000
DRILLING CONTRACTOR: ZEBRA Environmental Corp.				Meas. Pt. Elev.: Grade
PURPOSE: Supplemental Soil Borings				Ground Elev.: NA
DRILLING METHOD: Direct Push		SAMPLE	CORE	CASING	Datum: NA
DRILL RIG TYPE: Geoprobe	TYPE	Macro core		–	Date Started: 5/8/98
WATER DEPTH: est 7.0	DIAM.	2"		–	Date Finished: 5/8/98
MEAS. PT.: Grade	WEIGHT				Driller: Kirk Balderas
DATE OF MEAS.: 5/8/98	FALL				Inspector: K. McGrath

Depth (Feet)	Sample Number	OVA	Lab ID	USCS	GEOLOGIC DESCRIPTION	REMARKS
	S-1	ND			0-0.67 TOPSOIL 0.67	32" rec
1		ND			0.67-1.64 Loose, moist, dark brown, medium to fine SAND and Gravel 1.64	
2		ND				
3		28.8			1.64-16.0 Somewhat Stiff, damp, medium to fine SAND, some Silt; occ debris	
4	S-2	115				38" rec
5		187				
6		95	SB05(6-7)			
7		98				▽ est 7.0
8	S-3	98				32" rec
9		42				
10		58				
11		67				
12	S-4	512				44" rec
13		561	SB05(13-14)			
14		337				
15		228			16.0	
16					End of Boring @ 16.0	
17						
18						
19						
20						

RUST E&I Albany, NY (518) 458-1313	**Test Boring Log**	Boring No. SB06
PROJECT: B.C.F. Oil Recycling Facility		Sheet 1 of 1
CLIENT: Stillman, et al		Job No. 38808.10000
DRILLING CONTRACTOR: ZEBRA Environmental Corp.		Meas. Pt. Elev.: Grade
PURPOSE: Supplemental Soil Borings		Ground Elev.: NA

DRILLING METHOD: Direct Push		SAMPLE	CORE	CASING	Datum: NA
DRILL RIG TYPE: Geoprobe	TYPE	Macro core		–	Date Started: 5/8/98
WATER DEPTH: est 7.0	DIAM.	2"		–	Date Finished: 5/8/98
MEAS. PT.:	WEIGHT				Driller: Kirk Balderas
DATE OF MEAS.: --	FALL				Inspector: K. McGrath

Depth (Feet)	Sample Number	OVA	Lab ID	USCS	GEOLOGIC DESCRIPTION	REMARKS
0–4	S-1	low batt			0-0.66 TOPSOIL 0.66 0.66-1.8 loose, moist, dark brown SAND 1.80 1.80-16.0 Somewhat stiff, moist to wet, medium to fine SAND, some silt	31" rec
4–8	S-2	>500	SB06(6-7)			36" rec ▽ at 7.0
8–12	S-3	low batt				38" rec
12–16	S-4	low batt			16.0	44" rec
16					End Boring @ 16.0	

Appendix B

Analytical Laboratory Reporting Forms

BCF 1.4 0213

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 418, Manchester, CT 06040-0418
Tel. (860) 645-1102 Fax (860) 645-0823

RECEIVED
MAY 2 6 1998
RUST E&I

May 22, 1998

Rust Enviroment Infrastructure
12 Metro Park Rd.
Albany NY 12205

Attention: Mr. Frank Williams

Sample ID#: AB78413-20 & AB78422-25 Revised

This laboratory is in compliance with the QA/QC procedure outlined in EPA 600/4-79-019, Handbook for Analytical Quality in Water and Waste Water, March 1979, and SW846 QA/QC requirements of procedures used.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

John M. Schreiber

John M. Schreiber
Laboratory Director

CT Lab Registration #PH-0618
MA Lab Registration #CT-007
NY Lab Registration #11301
RI Lab Registration #63
NH Lab Registration #213693-A,B
ME Lab Registration #CT-007

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 418, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 22, 1998

FOR: Attn: Mr. Frank Williams
Rust Environment Infrastructure
12 Metro Park Road
Albany, NY 12205

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:	KM	05/08/98	10:30
Location Code:	RUST-ENV	Received by:	SW	05/11/98	11:00
Project Code:		Analyzed by:	see below		
P.O.#:					

Laboratory Data

Client ID: BCF OIL BROOKLYN SB01 (11-12) Phoenix I.D. AB78413

Parameter	Result	MDL	Units	Date	by	Reference
Methyl Tert Butyl Ether	BDL	20	ug/Kg	05/14/98	RM	SW8260
Percent Solid	79.0	0.1	%	05/11/98	JB	160.3
Sonication Ext. For PCB	Completed			05/11/98	T/E	SW846-3550
Sonic Ext. for Semi-Vol	Completed			05/10/98	T/E	SW846-3550
Polychlorinated Biphenyls						
PCB-1016	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1221	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1232	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1242	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1248	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1254	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1260	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1262	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1268	ND	80	ug/Kg	05/13/98	JE	SW 8082
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,1,1-Trichloroethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,1,2-Trichloroethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,1-Dichloroethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB01 (11-12) Phoenix I.D. AB78413

Parameter	Result	MDL	Units	Date	by	Reference
1,1-Dichloroethene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,1-Dichloropropene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,2,3-Trichlorobenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,2,3-Trichloropropane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,2,4-Trichlorobenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,2,4-Trimethylbenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,2-Dibromo-3-chloropropane(DBCP)	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,2-Dibromoethane(EDB)	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,2-Dichlorobenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,2-Dichloroethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,2-Dichloropropane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,3,5-Trimethylbenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,3-Dichlorobenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,3-Dichloropropane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
1,4-Dichlorobenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
2,2-Dichloropropane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
2-Chlorotoluene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
4-Chlorotoluene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Benzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Bromobenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Bromochloromethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Bromodichloromethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Bromoform	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Bromomethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Carbon tetrachloride	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Chlorobenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Chloroethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Chloroform	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Chloromethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Dibromochloromethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Dibromomethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Dichlorodifluoromethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Ethylbenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Hexachlorobutadiene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Isopropylbenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Methylene chloride	ND	5.0	ug/Kg	05/15/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB01 (11-12) Phoenix I.D. AB78413

Parameter	Result	MDL	Units	Date	by	Reference
n-Butylbenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
n-Propylbenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Naphthalene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
o-Xylene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
p&m-Xylene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
p-Isopropyltoluene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
sec-Butylbenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Styrene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
tert-Butylbenzene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Tetrachloroethene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Toluene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Trichloroethene	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Trichlorofluoromethane	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Vinyl chloride	ND	5.0	ug/Kg	05/15/98	RM	SW 8021
Semivolatiles						
Acenaphthene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Anthracene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(a)anthracene	500	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(a)pyrene	470	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(b)fluoranthene	590	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(g,h,i)perylene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(k)fluoranthene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Chrysene	460	330	ug/Kg	05/12/98	S/P	SW 8270
Dibenz(a,h)anthracene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Fluoranthene	470	330	ug/Kg	05/12/98	S/P	SW 8270
Fluorene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Indeno(1,2,3-c,d)pyrene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Naphthalene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Phenanthrene	790	330	ug/Kg	05/12/98	S/P	SW 8270
Pyrene	450	330	ug/Kg	05/12/98	S/P	SW 8270

Comments: ND=Not detected MDL = Minimum Detectable Limit BDL = Below Detection Limit

If there are any questions regarding this data, please call Phoenix Client Services at extenstion 200.

John M. Schreiber

John M. Schreiber, Laboratory Director
May 22, 1998

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 418, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 22, 1998

FOR: Attn: Mr. Frank Williams
Rust Environment Infrastructure
12 Metro Park Road
Albany, NY 12205

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:	KM	05/08/98	11:00
Location Code:	RUST-ENV	Received by:	SW	05/11/98	11:00
Project Code:		Analyzed by:	see below		
P.O.#:					

Laboratory Data

Client ID: BCF OIL BROOKLYN SB02 (2-3) Phoenix I.D. AB78414

Parameter	Result	MDL	Units	Date	by	Reference
Methyl Tert Butyl Ether	ND	20	ug/Kg	05/12/98	RM	SW8260
Percent Solid	89.3	0.1	%	05/11/98	JB	160.3
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,1,1-Trichloroethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,1,2,2-Tetrachloroethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,1,2-Trichloroethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,1-Dichloroethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,1-Dichloroethene	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,1-Dichloropropene	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2,3-Trichlorobenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2,3-Trichloropropane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2,4-Trichlorobenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2,4-Trimethylbenzene	65	25	ug/Kg	05/12/98	RM	SW 8021
1,2-Dibromo-3-chloropropane(DBCP)	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2-Dibromoethane(EDB)	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichlorobenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichloroethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichloropropane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,3,5-Trimethylbenzene	43	25	ug/Kg	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB02 (2-3) Phoenix I.D. AB78414

Parameter	Result	MDL	Units	Date	by	Reference
1,3-Dichlorobenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,3-Dichloropropane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,4-Dichlorobenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
2,2-Dichloropropane	ND	25	ug/Kg	05/12/98	RM	SW 8021
2-Chlorotoluene	ND	25	ug/Kg	05/12/98	RM	SW 8021
4-Chlorotoluene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Benzene	25	25	ug/Kg	05/12/98	RM	SW 8021
Bromobenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Bromochloromethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Bromodichloromethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Bromoform	ND	25	ug/Kg	05/12/98	RM	SW 8021
Bromomethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Carbon tetrachloride	ND	25	ug/Kg	05/12/98	RM	SW 8021
Chlorobenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Chloroethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Chloroform	ND	25	ug/Kg	05/12/98	RM	SW 8021
Chloromethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
cis-1,2-Dichloroethene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Dibromochloromethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Dibromomethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Dichlorodifluoromethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Ethylbenzene	61	25	ug/Kg	05/12/98	RM	SW 8021
Hexachlorobutadiene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Isopropylbenzene	93	25	ug/Kg	05/12/98	RM	SW 8021
Methylene chloride	ND	25	ug/Kg	05/12/98	RM	SW 8021
n-Butylbenzene	33	25	ug/Kg	05/12/98	RM	SW 8021
n-Propylbenzene	180	25	ug/Kg	05/12/98	RM	SW 8021
Naphthalene	46	25	ug/Kg	05/12/98	RM	SW 8021
o-Xylene	34	25	ug/Kg	05/12/98	RM	SW 8021
p&m-Xylene	190	25	ug/Kg	05/12/98	RM	SW 8021
p-Isopropyltoluene	ND	25	ug/Kg	05/12/98	RM	SW 8021
sec-Butylbenzene	37	25	ug/Kg	05/12/98	RM	SW 8021
Styrene	ND	25	ug/Kg	05/12/98	RM	SW 8021
tert-Butylbenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Tetrachloroethene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Toluene	49	25	ug/Kg	05/12/98	RM	SW 8021
trans-1,2-Dichloroethene	ND	25	ug/Kg	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB02 (2-3) Phoenix I.D.: AB78414

Parameter	Result	MDL	Units	Date	by	Reference
Trichloroethene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Trichlorofluoromethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Vinyl chloride	ND	25	ug/Kg	05/12/98	RM	SW 8021

Comments: ND=Not detected MDL = Minimum Detectable Limit BDL = Below Detection Limit

If there are any questions regarding this data, please call Phoenix Client Services at extenstion 200.

John M. Schreiber

John M. Schreiber, Laboratory Director
May 22, 1998

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 418, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 22, 1998

FOR: Attn: Mr. Frank Williams
Rust Environment Infrastructure
12 Metro Park Road
Albany, NY 12205

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:	KM	05/08/98	11:10
Location Code:	RUST-ENV	Received by:	SW	05/11/98	11:00
Project Code:		Analyzed by:	see below		
P.O.#:					

Laboratory Data

Client ID: BCF OIL BROOKLYN SB02 (6-7) Phoenix I.D. AB78415

Parameter	Result	MDL	Units	Date	by	Reference
Methyl Tert Butyl Ether	ND	100	ug/Kg	05/12/98	RM	SW8260
Percent Solid	84.1	0.1	%	05/11/98	JB	160.3
Sonication Ext. For PCB	Completed			05/11/98	T/E	SW846-3550
Sonic Ext. for Semi-Vol	Completed			05/10/98	T/E	SW846-3550
Polychlorinated Biphenyls						
PCB-1016	ND	160	ug/Kg	05/13/98	JE	SW 8082
PCB-1221	ND	160	ug/Kg	05/13/98	JE	SW 8082
PCB-1232	ND	160	ug/Kg	05/13/98	JE	SW 8082
PCB-1242	ND	160	ug/Kg	05/13/98	JE	SW 8082
PCB-1248	ND	160	ug/Kg	05/13/98	JE	SW 8082
PCB-1254	570	160	ug/Kg	05/13/98	JE	SW 8082
PCB-1260	ND	160	ug/Kg	05/13/98	JE	SW 8082
PCB-1262	ND	160	ug/Kg	05/13/98	JE	SW 8082
PCB-1268	ND	160	ug/Kg	05/13/98	JE	SW 8082
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,1,1-Trichloroethane	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,1,2,2-Tetrachloroethane	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,1,2-Trichloroethane	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,1-Dichloroethane	ND	500	ug/Kg	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB02 (6-7)

Parameter	Result	MDL	Units	Date	by	Reference
1,1-Dichloroethene	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,1-Dichloropropene	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,2,3-Trichlorobenzene	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,2,3-Trichloropropane	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,2,4-Trichlorobenzene	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,2,4-Trimethylbenzene	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,2-Dibromo-3-chloropropane(DBCP)	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,2-Dibromoethane(EDB)	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichlorobenzene	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichloroethane	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichloropropane	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,3,5-Trimethylbenzene	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,3-Dichlorobenzene	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,3-Dichloropropane	ND	500	ug/Kg	05/12/98	RM	SW 8021
1,4-Dichlorobenzene	ND	500	ug/Kg	05/12/98	RM	SW 8021
2,2-Dichloropropane	ND	500	ug/Kg	05/12/98	RM	SW 8021
2-Chlorotoluene	ND	500	ug/Kg	05/12/98	RM	SW 8021
4-Chlorotoluene	ND	500	ug/Kg	05/12/98	RM	SW 8021
Benzene	ND	500	ug/Kg	05/12/98	RM	SW 8021
Bromobenzene	ND	500	ug/Kg	05/12/98	RM	SW 8021
Bromochloromethane	ND	500	ug/Kg	05/12/98	RM	SW 8021
Bromodichloromethane	ND	500	ug/Kg	05/12/98	RM	SW 8021
Bromoform	ND	500	ug/Kg	05/12/98	RM	SW 8021
Bromomethane	ND	500	ug/Kg	05/12/98	RM	SW 8021
Carbon tetrachloride	ND	500	ug/Kg	05/12/98	RM	SW 8021
Chlorobenzene	ND	500	ug/Kg	05/12/98	RM	SW 8021
Chloroethane	ND	500	ug/Kg	05/12/98	RM	SW 8021
Chloroform	ND	500	ug/Kg	05/12/98	RM	SW 8021
Chloromethane	ND	500	ug/Kg	05/12/98	RM	SW 8021
cis-1,2-Dichloroethene	ND	500	ug/Kg	05/12/98	RM	SW 8021
Dibromochloromethane	ND	500	ug/Kg	05/12/98	RM	SW 8021
Dibromomethane	ND	500	ug/Kg	05/12/98	RM	SW 8021
Dichlorodifluoromethane	ND	500	ug/Kg	05/12/98	RM	SW 8021
Ethylbenzene	ND	500	ug/Kg	05/12/98	RM	SW 8021
Hexachlorobutadiene	ND	500	ug/Kg	05/12/98	RM	SW 8021
Isopropylbenzene	1300	500	ug/Kg	05/12/98	RM	SW 8021
Methylene chloride	ND	500	ug/Kg	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB02 (6-7)

Parameter	Result	MDL	Units	Date	by	Reference
n-Butylbenzene	4400	500	ug/Kg	05/12/98	RM	SW 8021
n-Propylbenzene	4800	500	ug/Kg	05/12/98	RM	SW 8021
Naphthalene	570	500	ug/Kg	05/12/98	RM	SW 8021
o-Xylene	ND	500	ug/Kg	05/12/98	RM	SW 8021
p&m-Xylene	640	500	ug/Kg	05/12/98	RM	SW 8021
p-Isopropyltoluene	ND	500	ug/Kg	05/12/98	RM	SW 8021
sec-Butylbenzene	1800	500	ug/Kg	05/12/98	RM	SW 8021
Styrene	ND	500	ug/Kg	05/12/98	RM	SW 8021
tert-Butylbenzene	ND	500	ug/Kg	05/12/98	RM	SW 8021
Tetrachloroethene	ND	500	ug/Kg	05/12/98	RM	SW 8021
Toluene	1300	500	ug/Kg	05/12/98	RM	SW 8021
trans-1,2-Dichloroethene	ND	500	ug/Kg	05/12/98	RM	SW 8021
Trichloroethene	ND	500	ug/Kg	05/12/98	RM	SW 8021
Trichlorofluoromethane	ND	500	ug/Kg	05/12/98	RM	SW 8021
Vinyl chloride	ND	500	ug/Kg	05/12/98	RM	SW 8021
Semivolatiles						
Acenaphthene	2200	330	ug/Kg	05/12/98	S/P	SW 8270
Anthracene	3400	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(a)anthracene	5400	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(a)pyrene	3200	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(b)fluoranthene	3800	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(g,h,i)perylene	1100	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(k)fluoranthene	2200	330	ug/Kg	05/12/98	S/P	SW 8270
Chrysene	3900	330	ug/Kg	05/12/98	S/P	SW 8270
Dibenz(a,h)anthracene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Fluoranthene	6900	1700	ug/Kg	05/12/98	S/P	SW 8270
Fluorene	3000	330	ug/Kg	05/12/98	S/P	SW 8270
Indeno(1,2,3-c,d)pyrene	1400	330	ug/Kg	05/12/98	S/P	SW 8270
Naphthalene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Phenanthrene	13000	1700	ug/Kg	05/12/98	S/P	SW 8270
Pyrene	5800	330	ug/Kg	05/12/98	S/P	SW 8270

Comments: ND=Not detected MDL = Minimum Detectable Limit BDL = Below Detection Limit

If there are any questions regarding this data, please call Phoenix Client Services at extention 200.

John M. Schreiber

John M. Schreiber, Laboratory Director
May 22, 1998

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 418, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 22, 1998

FOR: Attn: Mr. Frank Williams
Rust Environment Infrastructure
12 Metro Park Road
Albany, NY 12205

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:	KM	05/08/98	11:30
Location Code:	RUST-ENV	Received by:	SW	05/11/98	11:00
Project Code:		Analyzed by:	see below		
P.O.#:					

Laboratory Data

Client ID: BCF OIL BROOKLYN SB03 (6-7) Phoenix I.D. AB78416

Parameter	Result	MDL	Units	Date	by	Reference
Methyl Tert Butyl Ether	BDL	2500	ug/Kg	05/14/98	RM	SW8260
Percent Solid	83.6	0.1	%	05/11/98	JB	160.3
Sonication Ext. For PCB	Completed			05/11/98	T/E	SW846-3550
Sonic Ext. for Semi-Vol	Completed			05/10/98	T/E	SW846-3550
Polychlorinated Biphenyls						
PCB-1016	ND	400	ug/Kg	05/13/98	JE	SW 8082
PCB-1221	ND	400	ug/Kg	05/13/98	JE	SW 8082
PCB-1232	ND	400	ug/Kg	05/13/98	JE	SW 8082
PCB-1242	ND	400	ug/Kg	05/13/98	JE	SW 8082
PCB-1248	ND	400	ug/Kg	05/13/98	JE	SW 8082
PCB-1254	1600	400	ug/Kg	05/13/98	JE	SW 8082
PCB-1260	ND	400	ug/Kg	05/13/98	JE	SW 8082
PCB-1262	ND	400	ug/Kg	05/13/98	JE	SW 8082
PCB-1268	ND	400	ug/Kg	05/13/98	JE	SW 8082
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,1,1-Trichloroethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,1,2,2-Tetrachloroethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,1,2-Trichloroethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,1-Dichloroethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB03 (6-7)

Parameter	Result	MDL	Units	Date	by	Reference
1,1-Dichloroethene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,1-Dichloropropene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,2,3-Trichlorobenzene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,2,3-Trichloropropane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,2,4-Trichlorobenzene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,2,4-Trimethylbenzene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,2-Dibromo-3-chloropropane(DBCP)	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,2-Dibromoethane(EDB)	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,2-Dichlorobenzene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,2-Dichloroethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,2-Dichloropropane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,3,5-Trimethylbenzene	8400	1300	ug/Kg	05/14/98	RM	SW 8021
1,3-Dichlorobenzene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,3-Dichloropropane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
1,4-Dichlorobenzene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
2,2-Dichloropropane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
2-Chlorotoluene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
4-Chlorotoluene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Benzene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Bromobenzene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Bromochloromethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Bromodichloromethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Bromoform	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Bromomethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Carbon tetrachloride	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Chlorobenzene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Chloroethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Chloroform	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Chloromethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
cis-1,2-Dichloroethene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Dibromochloromethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Dibromomethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Dichlorodifluoromethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Ethylbenzene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Hexachlorobutadiene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Isopropylbenzene	7200	1300	ug/Kg	05/14/98	RM	SW 8021
Methylene chloride	ND	1300	ug/Kg	05/14/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB03 (6-7)

Parameter	Result	MDL	Units	Date	by	Reference
n-Butylbenzene	21000	1300	ug/Kg	05/14/98	RM	SW 8021
n-Propylbenzene	31000	1300	ug/Kg	05/14/98	RM	SW 8021
Naphthalene	18000	1300	ug/Kg	05/14/98	RM	SW 8021
o-Xylene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
p&m-Xylene	3000	1300	ug/Kg	05/14/98	RM	SW 8021
p-Isopropyltoluene	2800	1300	ug/Kg	05/14/98	RM	SW 8021
sec-Butylbenzene	5700	1300	ug/Kg	05/14/98	RM	SW 8021
Styrene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
tert-Butylbenzene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Tetrachloroethene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Toluene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
trans-1,2-Dichloroethene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Trichloroethene	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Trichlorofluoromethane	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Vinyl chloride	ND	1300	ug/Kg	05/14/98	RM	SW 8021
Semivolatiles						
Acenaphthene	5300	330	ug/Kg	05/12/98	S/P	SW 8270
Anthracene	13000	3300	ug/Kg	05/12/98	S/P	SW 8270
Benzo(a)anthracene	18000	3300	ug/Kg	05/12/98	S/P	SW 8270
Benzo(a)pyrene	5900	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(b)fluoranthene	11000	3300	ug/Kg	05/12/98	S/P	SW 8270
Benzo(g,h,i)perylene	220	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(k)fluoranthene	2700	330	ug/Kg	05/12/98	S/P	SW 8270
Chrysene	12000	3300	ug/Kg	05/12/98	S/P	SW 8270
Dibenz(a,h)anthracene	830	330	ug/Kg	05/12/98	S/P	SW 8270
Fluoranthene	28000	3300	ug/Kg	05/12/98	S/P	SW 8270
Fluorene	610	330	ug/Kg	05/12/98	S/P	SW 8270
Indeno(1,2,3-c,d)pyrene	2300	330	ug/Kg	05/12/98	S/P	SW 8270
Naphthalene	1300	330	ug/Kg	05/12/98	S/P	SW 8270
Phenanthrene	55000	3300	ug/Kg	05/12/98	S/P	SW 8270
Pyrene	20000	3300	ug/Kg	05/12/98	S/P	SW 8270

Comments: ND=Not detected MDL = Minimum Detectable Limit BDL = Below Detection Limit

If there are any questions regarding this data, please call Phoenix Client Services at extenstion 200.

John M. Schreiber

John M. Schreiber, Laboratory Director
May 22, 1998

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 418, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 22, 1998

FOR: Attn: Mr. Frank Williams
Rust Environment Infrastructure
12 Metro Park Road
Albany, NY 12205

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:	KM	05/08/98	13:00
Location Code:	RUST-ENV	Received by:	SW	05/11/98	11:00
Project Code:		Analyzed by:	see below		
P.O.#:					

Laboratory Data

Client ID: BCF OIL BROOKLYN SB04 (6-7) Phoenix I.D. AB78417

Parameter	Result	MDL	Units	Date	by	Reference
Methyl Tert Butyl Ether	ND	20	ug/Kg	05/12/98	RM	SW8260
Percent Solid	85.0	0.1	%	05/11/98	JB	160.3
Sonication Ext. For PCB	Completed			05/11/98	T/E	SW846-3550
Sonic Ext. for Semi-Vol	Completed			05/10/98	T/E	SW846-3550
Polychlorinated Biphenyls						
PCB-1016	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1221	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1232	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1242	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1248	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1254	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1260	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1262	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1268	ND	80	ug/Kg	05/13/98	JE	SW 8082
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,1,1-Trichloroethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,1,2,2-Tetrachloroethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,1,2-Trichloroethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,1-Dichloroethane	ND	25	ug/Kg	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB04 (6-7)

Parameter	Result	MDL	Units	Date	by	Reference
1,1-Dichloroethene	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,1-Dichloropropene	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2,3-Trichlorobenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2,3-Trichloropropane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2,4-Trichlorobenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2,4-Trimethylbenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2-Dibromo-3-chloropropane(DBCP)	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2-Dibromoethane(EDB)	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichlorobenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichloroethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichloropropane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,3,5-Trimethylbenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,3-Dichlorobenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,3-Dichloropropane	ND	25	ug/Kg	05/12/98	RM	SW 8021
1,4-Dichlorobenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
2,2-Dichloropropane	ND	25	ug/Kg	05/12/98	RM	SW 8021
2-Chlorotoluene	ND	25	ug/Kg	05/12/98	RM	SW 8021
4-Chlorotoluene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Benzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Bromobenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Bromochloromethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Bromodichloromethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Bromoform	ND	25	ug/Kg	05/12/98	RM	SW 8021
Bromomethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Carbon tetrachloride	ND	25	ug/Kg	05/12/98	RM	SW 8021
Chlorobenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Chloroethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Chloroform	ND	25	ug/Kg	05/12/98	RM	SW 8021
Chloromethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
cis-1,2-Dichloroethene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Dibromochloromethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Dibromomethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Dichlorodifluoromethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Ethylbenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Hexachlorobutadiene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Isopropylbenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Methylene chloride	ND	25	ug/Kg	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB04 (6-7)

Parameter	Result	MDL	Units	Date	by	Reference
n-Butylbenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
n-Propylbenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Naphthalene	26	25	ug/Kg	05/12/98	RM	SW 8021
o-Xylene	ND	25	ug/Kg	05/12/98	RM	SW 8021
p&m-Xylene	ND	25	ug/Kg	05/12/98	RM	SW 8021
p-Isopropyltoluene	ND	25	ug/Kg	05/12/98	RM	SW 8021
sec-Butylbenzene	38	25	ug/Kg	05/12/98	RM	SW 8021
Styrene	ND	25	ug/Kg	05/12/98	RM	SW 8021
tert-Butylbenzene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Tetrachloroethene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Toluene	ND	25	ug/Kg	05/12/98	RM	SW 8021
trans-1,2-Dichloroethene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Trichloroethene	ND	25	ug/Kg	05/12/98	RM	SW 8021
Trichlorofluoromethane	ND	25	ug/Kg	05/12/98	RM	SW 8021
Vinyl chloride	ND	25	ug/Kg	05/12/98	RM	SW 8021
Semivolatiles						
Acenaphthene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Anthracene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(a)anthracene	1500	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(a)pyrene	1500	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(b)fluoranthene	1600	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(g,h,i)perylene	1100	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(k)fluoranthene	760	330	ug/Kg	05/12/98	S/P	SW 8270
Chrysene	1600	330	ug/Kg	05/12/98	S/P	SW 8270
Dibenz(a,h)anthracene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Fluoranthene	1500	330	ug/Kg	05/12/98	S/P	SW 8270
Fluorene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Indeno(1,2,3-c,d)pyrene	990	330	ug/Kg	05/12/98	S/P	SW 8270
Naphthalene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Phenanthrene	1700	330	ug/Kg	05/12/98	S/P	SW 8270
Pyrene	1200	330	ug/Kg	05/12/98	S/P	SW 8270

Comments: ND=Not detected MDL = Minimum Detectable Limit BDL = Below Detection Limit

If there are any questions regarding this data, please call Phoenix Client Services at extenstion 200.

John M. Schreiber

John M. Schreiber, Laboratory Director
May 22, 1998

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 418. Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 22, 1998

FOR: Attn: Mr. Frank Williams
Rust Environment Infrastructure
12 Metro Park Road
Albany, NY 12205

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:	KM	05/08/98	14:00
Location Code:	RUST-ENV	Received by:	SW	05/11/98	11:00
Project Code:		Analyzed by:	see below		
P.O.#:					

Laboratory Data

Client ID: BCF OIL BROOKLYN SB05 (6-7) Phoenix I.D. AB78418

Parameter	Result	MDL	Units	Date	by	Reference
Methyl Tert Butyl Ether	BDL	250	ug/Kg	05/14/98	RM	SW8260
Percent Solid	86.1	0.1	%	05/11/98	JB	160.3
Sonication Ext. For PCB	Completed			05/11/98	T/E	SW846-3550
Sonic Ext. for Semi-Vol	Completed			05/10/98	T/E	SW846-3550
Polychlorinated Biphenyls						
PCB-1016	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1221	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1232	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1242	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1248	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1254	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1260	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1262	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1268	ND	80	ug/Kg	05/13/98	JE	SW 8082
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,1,1-Trichloroethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,1,2,2-Tetrachloroethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,1,2-Trichloroethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,1-Dichloroethane	ND	250	ug/Kg	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB05 (6-7)

Parameter	Result	MDL	Units	Date	by	Reference
1,1-Dichloroethene	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,1-Dichloropropene	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2,3-Trichlorobenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2,3-Trichloropropane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2,4-Trichlorobenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2,4-Trimethylbenzene	400	250	ug/Kg	05/12/98	RM	SW 8021
1,2-Dibromo-3-chloropropane(DBCP)	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2-Dibromoethane(EDB)	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichlorobenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichloroethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichloropropane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,3,5-Trimethylbenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,3-Dichlorobenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,3-Dichloropropane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,4-Dichlorobenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
2,2-Dichloropropane	ND	250	ug/Kg	05/12/98	RM	SW 8021
2-Chlorotoluene	ND	250	ug/Kg	05/12/98	RM	SW 8021
4-Chlorotoluene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Benzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Bromobenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Bromochloromethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Bromodichloromethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Bromoform	ND	250	ug/Kg	05/12/98	RM	SW 8021
Bromomethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Carbon tetrachloride	ND	250	ug/Kg	05/12/98	RM	SW 8021
Chlorobenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Chloroethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Chloroform	ND	250	ug/Kg	05/12/98	RM	SW 8021
Chloromethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
cis-1,2-Dichloroethene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Dibromochloromethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Dibromomethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Dichlorodifluoromethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Ethylbenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Hexachlorobutadiene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Isopropylbenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Methylene chloride	ND	250	ug/Kg	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB05 (6-7)

Parameter	Result	MDL	Units	Date	by	Reference
n-Butylbenzene	1200	250	ug/Kg	05/12/98	RM	SW 8021
n-Propylbenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Naphthalene	930	250	ug/Kg	05/12/98	RM	SW 8021
o-Xylene	ND	250	ug/Kg	05/12/98	RM	SW 8021
p&m-Xylene	ND	250	ug/Kg	05/12/98	RM	SW 8021
p-Isopropyltoluene	ND	250	ug/Kg	05/12/98	RM	SW 8021
sec-Butylbenzene	420	250	ug/Kg	05/12/98	RM	SW 8021
Styrene	ND	250	ug/Kg	05/12/98	RM	SW 8021
tert-Butylbenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Tetrachloroethene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Toluene	500	250	ug/Kg	05/12/98	RM	SW 8021
trans-1,2-Dichloroethene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Trichloroethene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Trichlorofluoromethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Vinyl chloride	ND	250	ug/Kg	05/12/98	RM	SW 8021
Semivolatiles						
Acenaphthene	ND	1650	ug/Kg	05/12/98	S/P	SW 8270
Anthracene	2400	1650	ug/Kg	05/12/98	S/P	SW 8270
Benzo(a)anthracene	5500	1650	ug/Kg	05/12/98	S/P	SW 8270
Benzo(a)pyrene	4200	1650	ug/Kg	05/12/98	S/P	SW 8270
Benzo(b)fluoranthene	4800	1650	ug/Kg	05/12/98	S/P	SW 8270
Benzo(g,h,i)perylene	ND	1650	ug/Kg	05/12/98	S/P	SW 8270
Benzo(k)fluoranthene	ND	1650	ug/Kg	05/12/98	S/P	SW 8270
Chrysene	5700	1650	ug/Kg	05/12/98	S/P	SW 8270
Dibenz(a,h)anthracene	ND	1650	ug/Kg	05/12/98	S/P	SW 8270
Fluoranthene	3100	1650	ug/Kg	05/12/98	S/P	SW 8270
Fluorene	2700	1650	ug/Kg	05/12/98	S/P	SW 8270
Indeno(1,2,3-c,d)pyrene	ND	1650	ug/Kg	05/12/98	S/P	SW 8270
Naphthalene	4300	1650	ug/Kg	05/12/98	S/P	SW 8270
Phenanthrene	12000	1650	ug/Kg	05/12/98	S/P	SW 8270
Pyrene	5600	1650	ug/Kg	05/12/98	S/P	SW 8270

Comments: ND=Not detected MDL = Minimum Detectable Limit BDL = Below Detection Limit

If there are any questions regarding this data, please call Phoenix Client Services at extenstion 200.

John M. Schreiber

John M. Schreiber, Laboratory Director
May 22, 1998

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 418, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 22, 1998

FOR: Attn: Mr. Frank Williams
Rust Environment Infrastructure
12 Metro Park Road
Albany, NY 12205

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:	KM	05/08/98	14:15
Location Code:	RUST-ENV	Received by:	SW	05/11/98	11:00
Project Code:		Analyzed by:	see below		
P.O.#:					

Laboratory Data

Client ID: BCF OIL BROOKLYN SB05 (12-13) Phoenix I.D. AB78419

Parameter	Result	MDL	Units	Date	by	Reference
Methyl Tert Butyl Ether	ND	50	ug/Kg	05/12/98	RM	SW8260
Percent Solid	80.2	0.1	%	05/11/98	JB	160.3
Sonication Ext. For PCB	Completed			05/11/98	T/E	SW846-3550
Sonic Ext. for Semi-Vol	Completed			05/10/98	T/E	SW846-3550
Polychlorinated Biphenyls						
PCB-1016	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1221	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1232	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1242	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1248	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1254	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1260	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1262	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1268	ND	80	ug/Kg	05/13/98	JE	SW 8082
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,1,1-Trichloroethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,1,2,2-Tetrachloroethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,1,2-Trichloroethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,1-Dichloroethane	ND	250	ug/Kg	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB05 (12-13)

Parameter	Result	MDL	Units	Date	by	Reference
1,1-Dichloroethene	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,1-Dichloropropene	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2,3-Trichlorobenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2,3-Trichloropropane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2,4-Trichlorobenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2,4-Trimethylbenzene	350	250	ug/Kg	05/12/98	RM	SW 8021
1,2-Dibromo-3-chloropropane(DBCP)	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2-Dibromoethane(EDB)	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichlorobenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichloroethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichloropropane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,3,5-Trimethylbenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,3-Dichlorobenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,3-Dichloropropane	ND	250	ug/Kg	05/12/98	RM	SW 8021
1,4-Dichlorobenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
2,2-Dichloropropane	ND	250	ug/Kg	05/12/98	RM	SW 8021
2-Chlorotoluene	ND	250	ug/Kg	05/12/98	RM	SW 8021
4-Chlorotoluene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Benzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Bromobenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Bromochloromethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Bromodichloromethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Bromoform	ND	250	ug/Kg	05/12/98	RM	SW 8021
Bromomethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Carbon tetrachloride	ND	250	ug/Kg	05/12/98	RM	SW 8021
Chlorobenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Chloroethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Chloroform	ND	250	ug/Kg	05/12/98	RM	SW 8021
Chloromethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
cis-1,2-Dichloroethene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Dibromochloromethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Dibromomethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Dichlorodifluoromethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Ethylbenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Hexachlorobutadiene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Isopropylbenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Methylene chloride	ND	250	ug/Kg	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB05 (12-13)

Parameter	Result	MDL	Units	Date	by	Reference
n-Butylbenzene	590	250	ug/Kg	05/12/98	RM	SW 8021
n-Propylbenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Naphthalene	ND	250	ug/Kg	05/12/98	RM	SW 8021
o-Xylene	ND	250	ug/Kg	05/12/98	RM	SW 8021
p&m-Xylene	ND	250	ug/Kg	05/12/98	RM	SW 8021
p-Isopropyltoluene	ND	250	ug/Kg	05/12/98	RM	SW 8021
sec-Butylbenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Styrene	ND	250	ug/Kg	05/12/98	RM	SW 8021
tert-Butylbenzene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Tetrachloroethene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Toluene	530	250	ug/Kg	05/12/98	RM	SW 8021
trans-1,2-Dichloroethene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Trichloroethene	ND	250	ug/Kg	05/12/98	RM	SW 8021
Trichlorofluoromethane	ND	250	ug/Kg	05/12/98	RM	SW 8021
Vinyl chloride	ND	250	ug/Kg	05/12/98	RM	SW 8021
Semivolatiles						
Acenaphthene	470	330	ug/Kg	05/12/98	S/P	SW 8270
Anthracene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(a)anthracene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(a)pyrene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(b)fluoranthene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(g,h,i)perylene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(k)fluoranthene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Chrysene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Dibenz(a,h)anthracene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Fluoranthene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Fluorene	630	330	ug/Kg	05/12/98	S/P	SW 8270
Indeno(1,2,3-c,d)pyrene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Naphthalene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Phenanthrene	1600	330	ug/Kg	05/12/98	S/P	SW 8270
Pyrene	440	330	ug/Kg	05/12/98	S/P	SW 8270

Comments: ND=Not detected MDL = Minimum Detectable Limit BDL = Below Detection Limit

If there are any questions regarding this data, please call Phoenix Client Services at extenstion 200.

John M. Schreiber

John M. Schreiber, Laboratory Director
May 22, 1998

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 418, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 22, 1998

FOR: Attn: Mr. Frank Williams
Rust Environment Infrastructure
12 Metro Park Road
Albany, NY 12205

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:	KM	05/08/98	15:00
Location Code:	RUST-ENV	Received by:	SW	05/11/98	11:00
Project Code:		Analyzed by:	see below		
P.O.#:					

Laboratory Data

Client ID: BCF OIL BROOKLYN SB06 (6-9) Phoenix I.D. AB78420

Parameter	Result	MDL	Units	Date	by	Reference
Methyl Tert Butyl Ether	ND	200	ug/Kg	05/12/98	RM	SW8260
Percent Solid	75.8	0.1	%	05/11/98	JB	160.3
Sonication Ext. For PCB	Completed			05/11/98	T/E	SW846-3550
Sonic Ext. for Semi-Vol	Completed			05/10/98	T/E	SW846-3550
Polychlorinated Biphenyls						
PCB-1016	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1221	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1232	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1242	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1248	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1254	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1260	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1262	ND	80	ug/Kg	05/13/98	JE	SW 8082
PCB-1268	ND	80	ug/Kg	05/13/98	JE	SW 8082
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,1,1-Trichloroethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,1,2,2-Tetrachloroethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,1,2-Trichloroethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,1-Dichloroethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB06 (6-9)

Parameter	Result	MDL	Units	Date	by	Reference
1,1-Dichloroethene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,1-Dichloropropene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,2,3-Trichlorobenzene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,2,3-Trichloropropane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,2,4-Trichlorobenzene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,2,4-Trimethylbenzene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,2-Dibromo-3-chloropropane(DBCP)	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,2-Dibromoethane(EDB)	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichlorobenzene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichloroethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,2-Dichloropropane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,3,5-Trimethylbenzene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,3-Dichlorobenzene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,3-Dichloropropane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
1,4-Dichlorobenzene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
2,2-Dichloropropane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
2-Chlorotoluene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
4-Chlorotoluene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Benzene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Bromobenzene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Bromochloromethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Bromodichloromethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Bromoform	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Bromomethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Carbon tetrachloride	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Chlorobenzene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Chloroethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Chloroform	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Chloromethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
cis-1,2-Dichloroethene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Dibromochloromethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Dibromomethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Dichlorodifluoromethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Ethylbenzene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Hexachlorobutadiene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Isopropylbenzene	9000	1000	ug/Kg	05/12/98	RM	SW 8021
Methylene chloride	ND	1000	ug/Kg	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN SB06 (6-9)

Parameter	Result	MDL	Units	Date	by	Reference
n-Butylbenzene	16000	1000	ug/Kg	05/12/98	RM	SW 8021
n-Propylbenzene	28000	1000	ug/Kg	05/12/98	RM	SW 8021
Naphthalene	2700	1000	ug/Kg	05/12/98	RM	SW 8021
o-Xylene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
p&m-Xylene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
p-Isopropyltoluene	1700	1000	ug/Kg	05/12/98	RM	SW 8021
sec-Butylbenzene	6300	1000	ug/Kg	05/12/98	RM	SW 8021
Styrene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
tert-Butylbenzene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Tetrachloroethene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Toluene	2300	1000	ug/Kg	05/12/98	RM	SW 8021
trans-1,2-Dichloroethene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Trichloroethene	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Trichlorofluoromethane	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Vinyl chloride	ND	1000	ug/Kg	05/12/98	RM	SW 8021
Semivolatiles						
Acenaphthene	1800	330	ug/Kg	05/12/98	S/P	SW 8270
Anthracene	1700	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(a)anthracene	1300	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(a)pyrene	930	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(b)fluoranthene	1100	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(g,h,i)perylene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Benzo(k)fluoranthene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Chrysene	1500	330	ug/Kg	05/12/98	S/P	SW 8270
Dibenz(a,h)anthracene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Fluoranthene	2100	330	ug/Kg	05/12/98	S/P	SW 8270
Fluorene	2200	330	ug/Kg	05/12/98	S/P	SW 8270
Indeno(1,2,3-c,d)pyrene	490	330	ug/Kg	05/12/98	S/P	SW 8270
Naphthalene	ND	330	ug/Kg	05/12/98	S/P	SW 8270
Phenanthrene	8500	330	ug/Kg	05/12/98	S/P	SW 8270
Pyrene	2100	330	ug/Kg	05/12/98	S/P	SW 8270

Comments: ND=Not detected MDL = Minimum Detectable Limit BDL = Below Detection Limit

If there are any questions regarding this data, please call Phoenix Client Services at extenstion 200.

John M. Schreiber

John M. Schreiber, Laboratory Director
May 22, 1998

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 418, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
May 22, 1998

FOR: Attn: Mr. Frank Williams
Rust Environment Infrastructure
12 Metro Park Road
Albany, NY 12205

Sample Information		Custody Information		Date	Time
Matrix:	OIL	Collected by:	KM	05/08/98	15:00
Location Code:	RUST-ENV	Received by:	SW	05/11/98	11:00
Project Code:		Analyzed by:	see below		
P.O.#:					

Laboratory Data

Client ID: BCF OIL BROOKLYN MW-1 Phoenix I.D. AB78421

Parameter	Result	MDL	Units	Date	by	Reference
Waste Dilution	Completed	NA	NA	05/13/98	TR	SW3580
Polychlorinated Biphenyls						
PCB-1016	ND	1.0	mg/kg	05/13/98	JE	SW 8082
PCB-1221	ND	1.0	mg/kg	05/13/98	JE	SW 8082
PCB-1232	ND	1.0	mg/kg	05/13/98	JE	SW 8082
PCB-1242	ND	1.0	mg/kg	05/13/98	JE	SW 8082
PCB-1248	ND	1.0	mg/kg	05/13/98	JE	SW 8082
PCB-1254	ND	1.0	mg/kg	05/13/98	JE	SW 8082
PCB-1260	ND	1.0	mg/kg	05/13/98	JE	SW 8082
PCB-1262	ND	1.0	mg/kg	05/13/98	JE	SW 8082
PCB-1268	ND	1.0	mg/kg	05/13/98	JE	SW 8082

Comments: ND=Not detected MDL = Minimum Detectable Limit BDL = Below Detection Limit

If there are any questions regarding this data, please call Phoenix Client Services at extenstion 200.

John M. Schreiber

John M. Schreiber, Laboratory Director
May 22, 1998

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 418, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 22, 1998

FOR: Attn: Mr. Frank Williams
Rust Environment Infrastructure
12 Metro Park Road
Albany, NY 12205

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KM	05/08/98	15:20
Location Code:	RUST-ENV	Received by:	SW	05/11/98	11:00
Project Code:		Analyzed by:	see below		
P.O.#:					

Laboratory Data

Client ID: BCF OIL BROOKLYN MW-4 Phoenix I.D. AB78422

Parameter	Result	MDL	Units	Date	by	Reference
Methyl Tert Butyl Ether	ND	5.0	ug/L	05/12/98	RM	SW8240
Sep. Funnel for PCB	Completed			05/12/98	PL	sw846-3510
Sep. Funnel Semi-Vol	Completed			05/12/98	PL	sw846-3510
Polychlorinated Biphenyls						
PCB-1016	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1221	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1232	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1242	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1248	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1254	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1260	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1262	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1268	ND	1.0	ug/l	05/13/98	JE	SW 8082
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,1,1-Trichloroethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,1,2-Trichloroethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,1-Dichloroethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,1-Dichloroethene	ND	5.0	ug/L	05/12/98	RM	SW 8021

Parameter	Result	MDL	Units	Date	by	Reference
1,1-Dichloropropene	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,2,3-Trichlorobenzene	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,2,3-Trichloropropane	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,2,4-Trichlorobenzene	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,2,4-Trimethylbenzene	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,2-Dibromoethane(EDB)	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,2-Dichlorobenzene	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,2-Dichloroethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,2-Dichloropropane	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,3,5-Trimethylbenzene	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,3-Dichlorobenzene	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,3-Dichloropropane	ND	5.0	ug/L	05/12/98	RM	SW 8021
1,4-Dichlorobenzene	ND	5.0	ug/L	05/12/98	RM	SW 8021
2,2-Dichloropropane	ND	5.0	ug/L	05/12/98	RM	SW 8021
2-Chlorotoluene	ND	5.0	ug/L	05/12/98	RM	SW 8021
4-Chlorotoluene	ND	5.0	ug/L	05/12/98	RM	SW 8021
Benzene	37	5.0	ug/L	05/12/98	RM	SW 8021
Bromobenzene	ND	5.0	ug/L	05/12/98	RM	SW 8021
Bromochloromethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
Bromodichloromethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
Bromoform	ND	5.0	ug/L	05/12/98	RM	SW 8021
Bromomethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
Carbon tetrachloride	ND	5.0	ug/L	05/12/98	RM	SW 8021
Chlorobenzene	ND	5.0	ug/L	05/12/98	RM	SW 8021
Chloroethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
Chloroform	ND	5.0	ug/L	05/12/98	RM	SW 8021
Chloromethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
cis-1,2-Dichloroethene	ND	5.0	ug/L	05/12/98	RM	SW 8021
Dibromochloromethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
Dibromomethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
Dichlorodifluoromethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
Ethylbenzene	ND	5.0	ug/L	05/12/98	RM	SW 8021
Hexachlorobutadiene	ND	5.0	ug/L	05/12/98	RM	SW 8021
Isopropylbenzene	10	5.0	ug/L	05/12/98	RM	SW 8021
Methylene chloride	ND	5.0	ug/L	05/12/98	RM	SW 8021
n-Butylbenzene	ND	5.0	ug/L	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN MW-4

Parameter	Result	MDL	Units	Date	by	Reference
n-Propylbenzene	12	5.0	ug/L	05/12/98	RM	SW 8021
Naphthalene	ND	5.0	ug/L	05/12/98	RM	SW 8021
o-Xylene	ND	5.0	ug/L	05/12/98	RM	SW 8021
p&m-Xylene	9.0	5.0	ug/L	05/12/98	RM	SW 8021
p-Isopropyltoluene	ND	5.0	ug/L	05/12/98	RM	SW 8021
sec-Butylbenzene	ND	5.0	ug/L	05/12/98	RM	SW 8021
Styrene	ND	5.0	ug/L	05/12/98	RM	SW 8021
tert-Butylbenzene	ND	5.0	ug/L	05/12/98	RM	SW 8021
Tetrachloroethene	ND	5.0	ug/L	05/12/98	RM	SW 8021
Toluene	180	5.0	ug/L	05/12/98	RM	SW 8021
trans-1,2-Dichloroethene	ND	5.0	ug/L	05/12/98	RM	SW 8021
Trichloroethene	ND	5.0	ug/L	05/12/98	RM	SW 8021
Trichlorofluoromethane	ND	5.0	ug/L	05/12/98	RM	SW 8021
Vinyl chloride	ND	5.0	ug/L	05/12/98	RM	SW 8021
Semivolatiles						
Acenaphthene	ND	8	ug/L	05/14/98	SC	SW 8270
Anthracene	ND	8	ug/L	05/14/98	SC	SW 8270
Benzo(a)anthracene	ND	31	ug/L	05/14/98	SC	SW 8270
Benzo(a)pyrene	ND	10	ug/L	05/14/98	SC	SW 8270
Benzo(b)fluoranthene	ND	19	ug/L	05/14/98	SC	SW 8270
Benzo(g,h,i)perylene	ND	10	ug/L	05/14/98	SC	SW 8270
Benzo(k)fluoranthene	ND	10	ug/L	05/14/98	SC	SW 8270
Chrysene	ND	10	ug/L	05/14/98	SC	SW 8270
Dibenz(a,h)anthracene	ND	10	ug/L	05/14/98	SC	SW 8270
Fluoranthene	ND	8	ug/L	05/14/98	SC	SW 8270
Fluorene	ND	8	ug/L	05/14/98	SC	SW 8270
Indeno(1,2,3-c,d)pyrene	ND	10	ug/L	05/14/98	SC	SW 8270
Naphthalene	ND	6	ug/L	05/14/98	SC	SW 8270
Phenanthrene	ND	22	ug/L	05/14/98	SC	SW 8270
Pyrene	ND	8	ug/L	05/14/98	SC	SW 8270

Comments: ND=Not detected MDL = Minimum Detectable Limit BDL = Below Detection Limit

If there are any questions regarding this data, please call Phoenix Client Services at extenstion 200.

John M. Schreiber

John M. Schreiber, Laboratory Director
May 22, 1998

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 418, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 22, 1998

FOR: Attn: Mr. Frank Williams
Rust Environment Infrastructure
12 Metro Park Road
Albany, NY 12205

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KM	05/08/98	14:20
Location Code:	RUST-ENV	Received by:	SW	05/11/98	11:00
Project Code:		Analyzed by:	see below		
P.O.#:					

Laboratory Data

Client ID: BCF OIL BROOKLYN MW-5 Phoenix I.D. AB78423

Parameter	Result	MDL	Units	Date	by	Reference
Methyl Tert Butyl Ether	ND	50	ug/L	05/12/98	RM	SW8240
Sep. Funnel for PCB	Completed			05/12/98	PL	sw846-351
Sep. Funnel Semi-Vol	Completed			05/12/98	PL	sw846-3510
Polychlorinated Biphenyls						
PCB-1016	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1221	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1232	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1242	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1248	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1254	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1260	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1262	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1268	ND	1.0	ug/l	05/13/98	JE	SW 8082
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	50	ug/L	05/12/98	RM	SW 8021
1,1,1-Trichloroethane	ND	50	ug/L	05/12/98	RM	SW 8021
1,1,2,2-Tetrachloroethane	ND	50	ug/L	05/12/98	RM	SW 8021
1,1,2-Trichloroethane	ND	50	ug/L	05/12/98	RM	SW 8021
1,1-Dichloroethane	ND	50	ug/L	05/12/98	RM	SW 8021
1,1-Dichloroethene	ND	50	ug/L	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN MW-5

Parameter	Result	MDL	Units	Date	by	Reference
1,1-Dichloropropene	ND	50	ug/L	05/12/98	RM	SW 8021
1,2,3-Trichlorobenzene	ND	50	ug/L	05/12/98	RM	SW 8021
1,2,3-Trichloropropane	ND	50	ug/L	05/12/98	RM	SW 8021
1,2,4-Trichlorobenzene	ND	50	ug/L	05/12/98	RM	SW 8021
1,2,4-Trimethylbenzene	200	50	ug/L	05/12/98	RM	SW 8021
1,2-Dibromo-3-chloropropane (DBCP)	ND	50	ug/L	05/12/98	RM	SW 8021
1,2-Dibromoethane(EDB)	ND	50	ug/L	05/12/98	RM	SW 8021
1,2-Dichlorobenzene	ND	50	ug/L	05/12/98	RM	SW 8021
1,2-Dichloroethane	ND	50	ug/L	05/12/98	RM	SW 8021
1,2-Dichloropropane	ND	50	ug/L	05/12/98	RM	SW 8021
1,3,5-Trimethylbenzene	110	50	ug/L	05/12/98	RM	SW 8021
1,3-Dichlorobenzene	ND	50	ug/L	05/12/98	RM	SW 8021
1,3-Dichloropropane	ND	50	ug/L	05/12/98	RM	SW 8021
1,4-Dichlorobenzene	ND	50	ug/L	05/12/98	RM	SW 8021
2,2-Dichloropropane	ND	50	ug/L	05/12/98	RM	SW 8021
2-Chlorotoluene	ND	50	ug/L	05/12/98	RM	SW 8021
4-Chlorotoluene	ND	50	ug/L	05/12/98	RM	SW 8021
Benzene	1200	50	ug/L	05/12/98	RM	SW 8021
Bromobenzene	ND	50	ug/L	05/12/98	RM	SW 8021
Bromochloromethane	ND	50	ug/L	05/12/98	RM	SW 8021
Bromodichloromethane	ND	50	ug/L	05/12/98	RM	SW 8021
Bromoform	ND	50	ug/L	05/12/98	RM	SW 8021
Bromomethane	ND	50	ug/L	05/12/98	RM	SW 8021
Carbon tetrachloride	ND	50	ug/L	05/12/98	RM	SW 8021
Chlorobenzene	ND	50	ug/L	05/12/98	RM	SW 8021
Chloroethane	ND	50	ug/L	05/12/98	RM	SW 8021
Chloroform	ND	50	ug/L	05/12/98	RM	SW 8021
Chloromethane	ND	50	ug/L	05/12/98	RM	SW 8021
cis-1,2-Dichloroethene	ND	50	ug/L	05/12/98	RM	SW 8021
Dibromochloromethane	ND	50	ug/L	05/12/98	RM	SW 8021
Dibromomethane	ND	50	ug/L	05/12/98	RM	SW 8021
Dichlorodifluoromethane	ND	50	ug/L	05/12/98	RM	SW 8021
Ethylbenzene	230	50	ug/L	05/12/98	RM	SW 8021
Hexachlorobutadiene	ND	50	ug/L	05/12/98	RM	SW 8021
Isopropylbenzene	80	50	ug/L	05/12/98	RM	SW 8021
Methylene chloride	ND	50	ug/L	05/12/98	RM	SW 8021
n-Butylbenzene	ND	50	ug/L	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN MW-5

Parameter	Result	MDL	Units	Date	by	Reference
n-Propylbenzene	240	50	ug/L	05/12/98	RM	SW 8021
Naphthalene	ND	50	ug/L	05/12/98	RM	SW 8021
o-Xylene	ND	50	ug/L	05/12/98	RM	SW 8021
p&m-Xylene	220	50	ug/L	05/12/98	RM	SW 8021
p-Isopropyltoluene	ND	50	ug/L	05/12/98	RM	SW 8021
sec-Butylbenzene	ND	50	ug/L	05/12/98	RM	SW 8021
Styrene	ND	50	ug/L	05/12/98	RM	SW 8021
tert-Butylbenzene	ND	50	ug/L	05/12/98	RM	SW 8021
Tetrachloroethene	ND	50	ug/L	05/12/98	RM	SW 8021
Toluene	100	50	ug/L	05/12/98	RM	SW 8021
trans-1,2-Dichloroethene	ND	50	ug/L	05/12/98	RM	SW 8021
Trichloroethene	ND	50	ug/L	05/12/98	RM	SW 8021
Trichlorofluoromethane	ND	50	ug/L	05/12/98	RM	SW 8021
Vinyl chloride	ND	50	ug/L	05/12/98	RM	SW 8021
Semivolatiles						
Acenaphthene	ND	8	ug/L	05/14/98	SC	SW 8270
Anthracene	ND	8	ug/L	05/14/98	SC	SW 8270
Benzo(a)anthracene	ND	31	ug/L	05/14/98	SC	SW 8270
Benzo(a)pyrene	ND	10	ug/L	05/14/98	SC	SW 8270
Benzo(b)fluoranthene	ND	19	ug/L	05/14/98	SC	SW 8270
Benzo(g,h,i)perylene	ND	10	ug/L	05/14/98	SC	SW 8270
Benzo(k)fluoranthene	ND	10	ug/L	05/14/98	SC	SW 8270
Chrysene	ND	10	ug/L	05/14/98	SC	SW 8270
Dibenz(a,h)anthracene	ND	10	ug/L	05/14/98	SC	SW 8270
Fluoranthene	ND	8	ug/L	05/14/98	SC	SW 8270
Fluorene	ND	8	ug/L	05/14/98	SC	SW 8270
Indeno(1,2,3-c,d)pyrene	ND	10	ug/L	05/14/98	SC	SW 8270
Naphthalene	ND	6	ug/L	05/14/98	SC	SW 8270
Phenanthrene	ND	22	ug/L	05/14/98	SC	SW 8270
Pyrene	ND	8	ug/L	05/14/98	SC	SW 8270

Comments: ND=Not detected MDL = Minimum Detectable Limit BDL = Below Detection Limit

If there are any questions regarding this data, please call Phoenix Client Services at extenstion 200.

John M. Schreiber

John M. Schreiber, Laboratory Director
May 22, 1998

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 418, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 22, 1998

FOR: Attn: Mr. Frank Williams
Rust Environment Infrastructure
12 Metro Park Road
Albany, NY 12205

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KM	05/08/98	16:00
Location Code:	RUST-ENV	Received by:	SW	05/11/98	11:00
Project Code:		Analyzed by:	see below		
P.O.#:					

Laboratory Data

Client ID: BCF OIL BROOKLYN MW-7 Phoenix I.D. AB78424

Parameter	Result	MDL	Units	Date	by	Reference
Methyl Tert Butyl Ether	BDL	50	ug/L	05/14/98	RM	SW8240
Sep. Funnel for PCB	Completed			05/12/98	PL	sw846-3510
Sep. Funnel Semi-Vol	Completed			05/12/98	PL	sw846-3510
Polychlorinated Biphenyls						
PCB-1016	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1221	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1232	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1242	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1248	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1254	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1260	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1262	ND	1.0	ug/l	05/13/98	JE	SW 8082
PCB-1268	ND	1.0	ug/l	05/13/98	JE	SW 8082
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	10	ug/L	05/12/98	RM	SW 8021
1,1,1-Trichloroethane	ND	10	ug/L	05/12/98	RM	SW 8021
1,1,2,2-Tetrachloroethane	ND	10	ug/L	05/12/98	RM	SW 8021
1,1,2-Trichloroethane	ND	10	ug/L	05/12/98	RM	SW 8021
1,1-Dichloroethane	ND	10	ug/L	05/12/98	RM	SW 8021
1,1-Dichloroethene	ND	10	ug/L	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN MW-7

Parameter	Result	MDL	Units	Date	by	Reference
1,1-Dichloropropene	ND	10	ug/L	05/12/98	RM	SW 8021
1,2,3-Trichlorobenzene	ND	10	ug/L	05/12/98	RM	SW 8021
1,2,3-Trichloropropane	ND	10	ug/L	05/12/98	RM	SW 8021
1,2,4-Trichlorobenzene	ND	10	ug/L	05/12/98	RM	SW 8021
1,2,4-Trimethylbenzene	33	10	ug/L	05/12/98	RM	SW 8021
1,2-Dibromo-3-chloropropane (DBCP)	ND	10	ug/L	05/12/98	RM	SW 8021
1,2-Dibromoethane(EDB)	ND	10	ug/L	05/12/98	RM	SW 8021
1,2-Dichlorobenzene	ND	10	ug/L	05/12/98	RM	SW 8021
1,2-Dichloroethane	ND	10	ug/L	05/12/98	RM	SW 8021
1,2-Dichloropropane	ND	10	ug/L	05/12/98	RM	SW 8021
1,3,5-Trimethylbenzene	ND	10	ug/L	05/12/98	RM	SW 8021
1,3-Dichlorobenzene	ND	10	ug/L	05/12/98	RM	SW 8021
1,3-Dichloropropane	ND	10	ug/L	05/12/98	RM	SW 8021
1,4-Dichlorobenzene	ND	10	ug/L	05/12/98	RM	SW 8021
2,2-Dichloropropane	ND	10	ug/L	05/12/98	RM	SW 8021
2-Chlorotoluene	ND	10	ug/L	05/12/98	RM	SW 8021
4-Chlorotoluene	ND	10	ug/L	05/12/98	RM	SW 8021
Benzene	540	10	ug/L	05/12/98	RM	SW 8021
Bromobenzene	ND	10	ug/L	05/12/98	RM	SW 8021
Bromochloromethane	ND	10	ug/L	05/12/98	RM	SW 8021
Bromodichloromethane	ND	10	ug/L	05/12/98	RM	SW 8021
Bromoform	ND	10	ug/L	05/12/98	RM	SW 8021
Bromomethane	ND	10	ug/L	05/12/98	RM	SW 8021
Carbon tetrachloride	ND	10	ug/L	05/12/98	RM	SW 8021
Chlorobenzene	ND	10	ug/L	05/12/98	RM	SW 8021
Chloroethane	ND	10	ug/L	05/12/98	RM	SW 8021
Chloroform	ND	10	ug/L	05/12/98	RM	SW 8021
Chloromethane	ND	10	ug/L	05/12/98	RM	SW 8021
cis-1,2-Dichloroethene	ND	10	ug/L	05/12/98	RM	SW 8021
Dibromochloromethane	ND	10	ug/L	05/12/98	RM	SW 8021
Dibromomethane	ND	10	ug/L	05/12/98	RM	SW 8021
Dichlorodifluoromethane	ND	10	ug/L	05/12/98	RM	SW 8021
Ethylbenzene	180	10	ug/L	05/12/98	RM	SW 8021
Hexachlorobutadiene	ND	10	ug/L	05/12/98	RM	SW 8021
Isopropylbenzene	150	10	ug/L	05/12/98	RM	SW 8021
Methylene chloride	ND	10	ug/L	05/12/98	RM	SW 8021
n-Butylbenzene	ND	10	ug/L	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN MW-7

Parameter	Result	MDL	Units	Date	by	Reference
n-Propylbenzene	70	10	ug/L	05/12/98	RM	SW 8021
Naphthalene	200	10	ug/L	05/12/98	RM	SW 8021
o-Xylene	26	10	ug/L	05/12/98	RM	SW 8021
p&m-Xylene	20	10	ug/L	05/12/98	RM	SW 8021
p-Isopropyltoluene	ND	10	ug/L	05/12/98	RM	SW 8021
sec-Butylbenzene	ND	10	ug/L	05/12/98	RM	SW 8021
Styrene	ND	10	ug/L	05/12/98	RM	SW 8021
tert-Butylbenzene	ND	10	ug/L	05/12/98	RM	SW 8021
Tetrachloroethene	ND	10	ug/L	05/12/98	RM	SW 8021
Toluene	18	10	ug/L	05/12/98	RM	SW 8021
trans-1,2-Dichloroethene	ND	10	ug/L	05/12/98	RM	SW 8021
Trichloroethene	ND	10	ug/L	05/12/98	RM	SW 8021
Trichlorofluoromethane	ND	10	ug/L	05/12/98	RM	SW 8021
Vinyl chloride	ND	10	ug/L	05/12/98	RM	SW 8021
Semivolatiles						
Acenaphthene	ND	10	ug/L	05/14/98	SC	SW 8270
Anthracene	ND	10	ug/L	05/14/98	SC	SW 8270
Benzo(a)anthracene	ND	37	ug/L	05/14/98	SC	SW 8270
Benzo(a)pyrene	ND	12	ug/L	05/14/98	SC	SW 8270
Benzo(b)fluoranthene	ND	23	ug/L	05/14/98	SC	SW 8270
Benzo(g,h,i)perylene	ND	12	ug/L	05/14/98	SC	SW 8270
Benzo(k)fluoranthene	ND	12	ug/L	05/14/98	SC	SW 8270
Chrysene	ND	12	ug/L	05/14/98	SC	SW 8270
Dibenz(a,h)anthracene	ND	12	ug/L	05/14/98	SC	SW 8270
Fluoranthene	ND	10	ug/L	05/14/98	SC	SW 8270
Fluorene	ND	10	ug/L	05/14/98	SC	SW 8270
Indeno(1,2,3-c,d)pyrene	ND	12	ug/L	05/14/98	SC	SW 8270
Naphthalene	81	7	ug/L	05/14/98	SC	SW 8270
Phenanthrene	ND	26	ug/L	05/14/98	SC	SW 8270
Pyrene	ND	10	ug/L	05/14/98	SC	SW 8270

Comments: ND=Not detected MDL = Minimum Detectable Limit BDL = Below Detection Limit

If there are any questions regarding this data, please call Phoenix Client Services at extenstion 200.

John M. Schreiber

John M. Schreiber, Laboratory Director
May 22, 1998

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 418, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 22, 1998

FOR: Attn: Mr. Frank Williams
Rust Environment Infrastructure
12 Metro Park Road
Albany, NY 12205

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KM	05/08/98	12:14
Location Code:	RUST-ENV	Received by:	SW	05/11/98	11:00
Project Code:		Analyzed by:	see below		
P.O.#:					

Laboratory Data

Client ID: BCF OIL BROOKLYN TB050898 Phoenix I.D. AB78425

Parameter	Result	MDL	Units	Date	by	Reference
Methyl Tert Butyl Ether	ND	5.0	ug/L	05/12/98	RM	SW8240
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,1,1-Trichloroethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,1,2-Trichloroethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,1-Dichloroethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,1-Dichloroethene	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,1-Dichloropropene	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,2,3-Trichlorobenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,2,3-Trichloropropane	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,2,4-Trichlorobenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,2,4-Trimethylbenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,2-Dibromo-3-chloropropane (DBCP)	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,2-Dibromoethane(EDB)	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,2-Dichlorobenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,2-Dichloroethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,2-Dichloropropane	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,3,5-Trimethylbenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,3-Dichlorobenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN TB050898

Parameter	Result	MDL	Units	Date	by	Reference
1,3-Dichloropropane	ND	1.0	ug/L	05/12/98	RM	SW 8021
1,4-Dichlorobenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
2,2-Dichloropropane	ND	1.0	ug/L	05/12/98	RM	SW 8021
2-Chlorotoluene	ND	1.0	ug/L	05/12/98	RM	SW 8021
4-Chlorotoluene	ND	1.0	ug/L	05/12/98	RM	SW 8021
Benzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
Bromobenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
Bromochloromethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
Bromodichloromethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
Bromoform	ND	1.0	ug/L	05/12/98	RM	SW 8021
Bromomethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
Carbon tetrachloride	ND	1.0	ug/L	05/12/98	RM	SW 8021
Chlorobenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
Chloroethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
Chloroform	ND	1.0	ug/L	05/12/98	RM	SW 8021
Chloromethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
cis-1,2-Dichloroethene	ND	1.0	ug/L	05/12/98	RM	SW 8021
Dibromochloromethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
Dibromomethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
Dichlorodifluoromethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
Ethylbenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
Hexachlorobutadiene	ND	1.0	ug/L	05/12/98	RM	SW 8021
Isopropylbenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
Methylene chloride	ND	1.0	ug/L	05/12/98	RM	SW 8021
n-Butylbenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
n-Propylbenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
Naphthalene	ND	1.0	ug/L	05/12/98	RM	SW 8021
o-Xylene	ND	1.0	ug/L	05/12/98	RM	SW 8021
p&m-Xylene	ND	1.0	ug/L	05/12/98	RM	SW 8021
p-Isopropyltoluene	ND	1.0	ug/L	05/12/98	RM	SW 8021
sec-Butylbenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
Styrene	ND	1.0	ug/L	05/12/98	RM	SW 8021
tert-Butylbenzene	ND	1.0	ug/L	05/12/98	RM	SW 8021
Tetrachloroethene	ND	1.0	ug/L	05/12/98	RM	SW 8021
Toluene	ND	1.0	ug/L	05/12/98	RM	SW 8021
trans-1,2-Dichloroethene	ND	1.0	ug/L	05/12/98	RM	SW 8021
Trichloroethene	ND	1.0	ug/L	05/12/98	RM	SW 8021

Client ID: BCF OIL BROOKLYN TB050898

Parameter	Result	MDL	Units	Date	by	Reference
Trichlorofluoromethane	ND	1.0	ug/L	05/12/98	RM	SW 8021
Vinyl chloride	ND	1.0	ug/L	05/12/98	RM	SW 8021

Comments: ND=Not detected MDL = Minimum Detectable Limit BDL = Below Detection Limit

TRIP BLANK INCLUDED

If there are any questions regarding this data, please call Phoenix Client Services at extenstion 200.

John M. Schreiber

John M. Schreiber, Laboratory Director
May 22, 1998

BCF 1.4 0261

12 Metro Park Road
Albany, N.Y. 12205 Ph: (518) 458-1313 Fax: (518) 458-2472

RUST

Client Name: Stillman &	Rust Contact: FRANK WILLIAMS 518 435 7236
Project No.: 38808.10000	Laboratory Contact: ANDY PHELAN
Site Location: BCF OIL, 360 ~~[illegible]~~ AVE, BROOKLYN	Lab Identification: Phoenix Environmental
	Date Report Required: Normal
Sampler: K. McGrath, F. Williams	

Sample Identification	Date	Time	Sample Matrix	Collection Vessel	# Sample Containers	Preserv.	Comp. or Grab	ANALYSIS REQUIRED/COMMENTS
SB01 (11-12)	5/8/98	10:30	SOIL	MACRO-CORE	2	—	G	8021, 8270 STARS, 8082 PCB 78413
SB02 (2-3)	↓	11:00	Soil	Macro-Core	1	—	G	8021 78414
SB02 (6-7)		11:10	SOIL	MACRO-CORE	2	—	G	8021, 8270 STARS, 8082 (PCB) 78415
SB03 (6-7)		11:30	SOIL	Macro-Core	2	—	G	8021, 8270 STARS, 8082 (PCB) 78416
SB04 (6-7)		13:00	SOIL	Macro-Core	2	—	G	8021, 8270 Stars, 8082 (PCB) 78417
SB05 (6-7)		14:00	SOIL	Macro-Core	2	—	G	8021, 8270 Stars, 8082 (PCB) 78418
SB05 (12-13)		14:15	SOIL	Macro-Core	2	—	G	8021, 8270 Stars, 8082 (PCB) 78419
SB06 (6-9)		15:00	SOIL	Large Bore	2	—	G	8021, 8270 Stars, 8082 (PCB) 78420
MW-1		15:00	GW(?)	Bailer	1	—	G	8082 78421
MW-4		15:20	GW	Bailer	5	—	G	8021, 8270 STARS, 8082 (PCB) 78422
MW-5		14:20	GW	Bailer	5	—	G	8021, 8270 STARS, 8082 (PCB) 78423
MW-7		16:00	GW	Bailer	5	—	G	8021, 8270 STARS, 8082 (PCB) 78424
TB050898	↓	—	—	—	2	—	—	8021 78425
								78426QC

	Name	Affiliation	Date	Time
Relinquished by:	K. McGrath	RUST	5/8/98	1700
Received by:				
Relinquished by:				
Received by:				

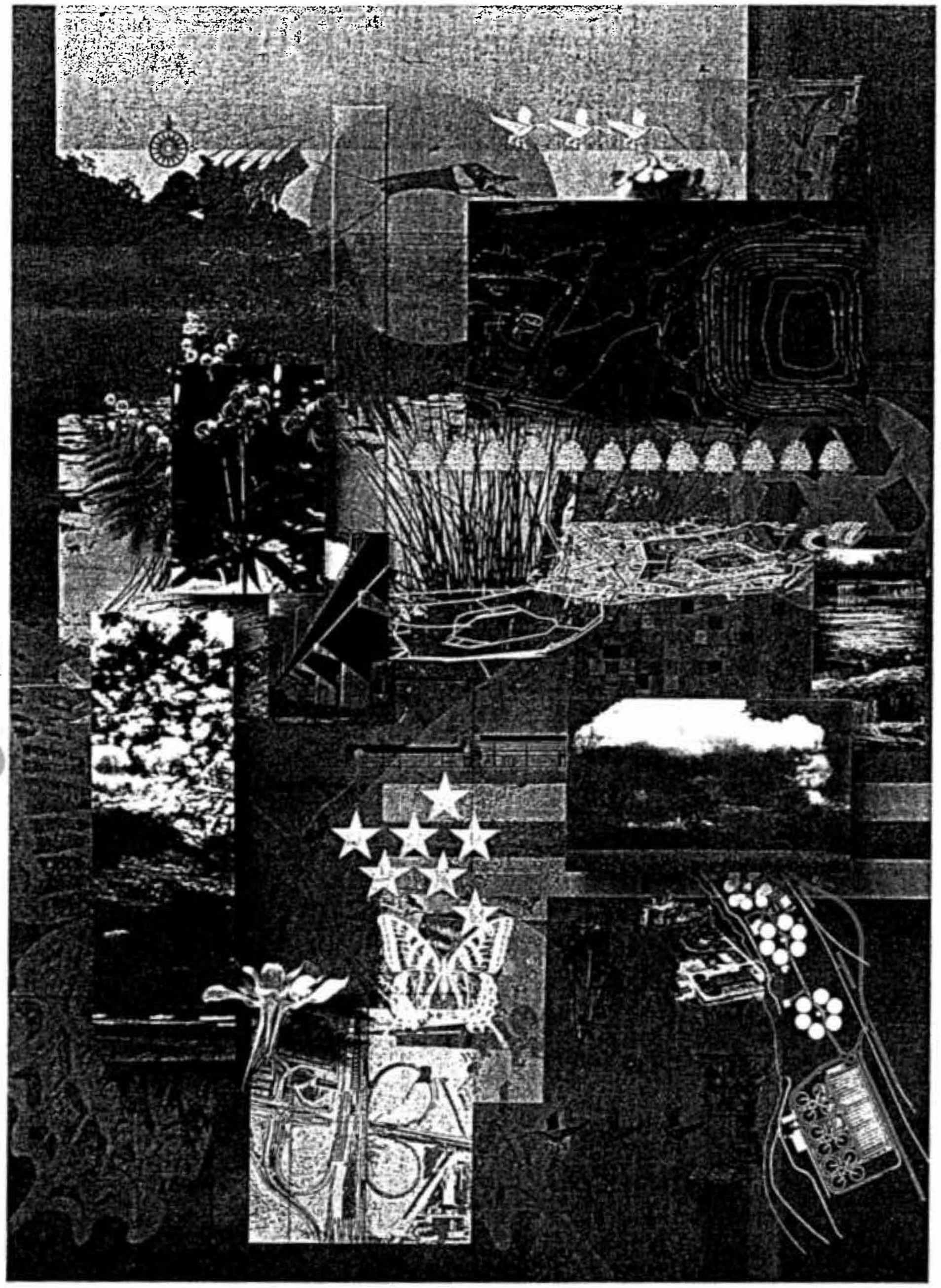
	Name	Date	Time
Received by Laboratory:	Shannon White	5-11-98	11:00

Samples Intact & Properly Preserved: Yes or No

Laboratory Comments: Samples Rec'd Cold

Form 3C

Quality • Integrity • Creativity • Responsiveness



Quality through teamwork

PROJECT SCOPING PLAN

RESTORATION OF B.C.F. OIL REFINING FACILITY

Prepared for:

B.C.F. Oil Refining, Inc.
360 Maspeth Avenue
Brooklyn, New York

Prepared by:

Rust Environment & Infrastructure
12 Metro Park Road
Albany, New York 12205

August, 1998

Rust Environment & Infrastructure

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1.0 INTRODUCTION

The purpose of this Scoping Plan is to outline the activities to be undertaken at the B.C.F. Oil Refining Facility (BCF) to remediate PCB contaminated process equipment, address subsurface petroleum contamination, and restore the Facility to permitted waste oil refining status. In addition, the Project Scoping Plan is intended to resolve all regulatory issues at the earliest possible point.

Detailed specifications and procedures, as well as a timetable for completion of the restoration activities, will be provided in the final Work Plan.

1.1 Site Background

The B.C.F. Oil Refining Facility occupies an approximately 1.85 acre site on the north bank of the Newtown Creek in Brooklyn, New York (Figure 1). When it was in active operation, the Facility processed various waste oils, tank bottoms and oily water mixtures to produce a fuel oil that was sold for use in commercial boilers. The Facility is bordered on the south by the Newtown Creek, on the east by a gasoline and fuel oil distribution terminal, on the north by Maspeth Avenue and then the Brooklyn Union Gas Company, and on the west by light manufacturing and industrial supply facilities. Based on historical Sanborn Map Company fire insurance maps, the majority of the site was created sometime after 1907 by filling an embayment on the shore of the Newtown Creek. By 1933 the site was occupied by a petroleum distribution terminal. In approximately 1980 the terminal was modified for use as a waste oil processing facility. The Facility was sold to its current owner in 1985.

The principle features of the Facility (Figure 2) consist of:

1) ten 20,000 gallon heated, steel underground tanks (nos. 1-10) used for oil/water separation and temporary storage, processing and blending of waste materials;

2) a 150,000 gallon heated, steel underground tank, divided into two chambers (tank nos. 15 and 16), used for heating waste materials and separation of solids and water;

Map Reference
NYSDOT 7.5 minute series
Brooklyn Quadrangle, Rev. 1975

Figure 1 – Location Map

RUST

Rust Environment & Infrastructure Inc.

B.C.F. OIL REFINING FACILITY
360 MASPETH AVENUE
BROOKLYN, NEW YORK 11211

JUNE 1998

38808.10000

June 2, 1998

388087-Fig 1

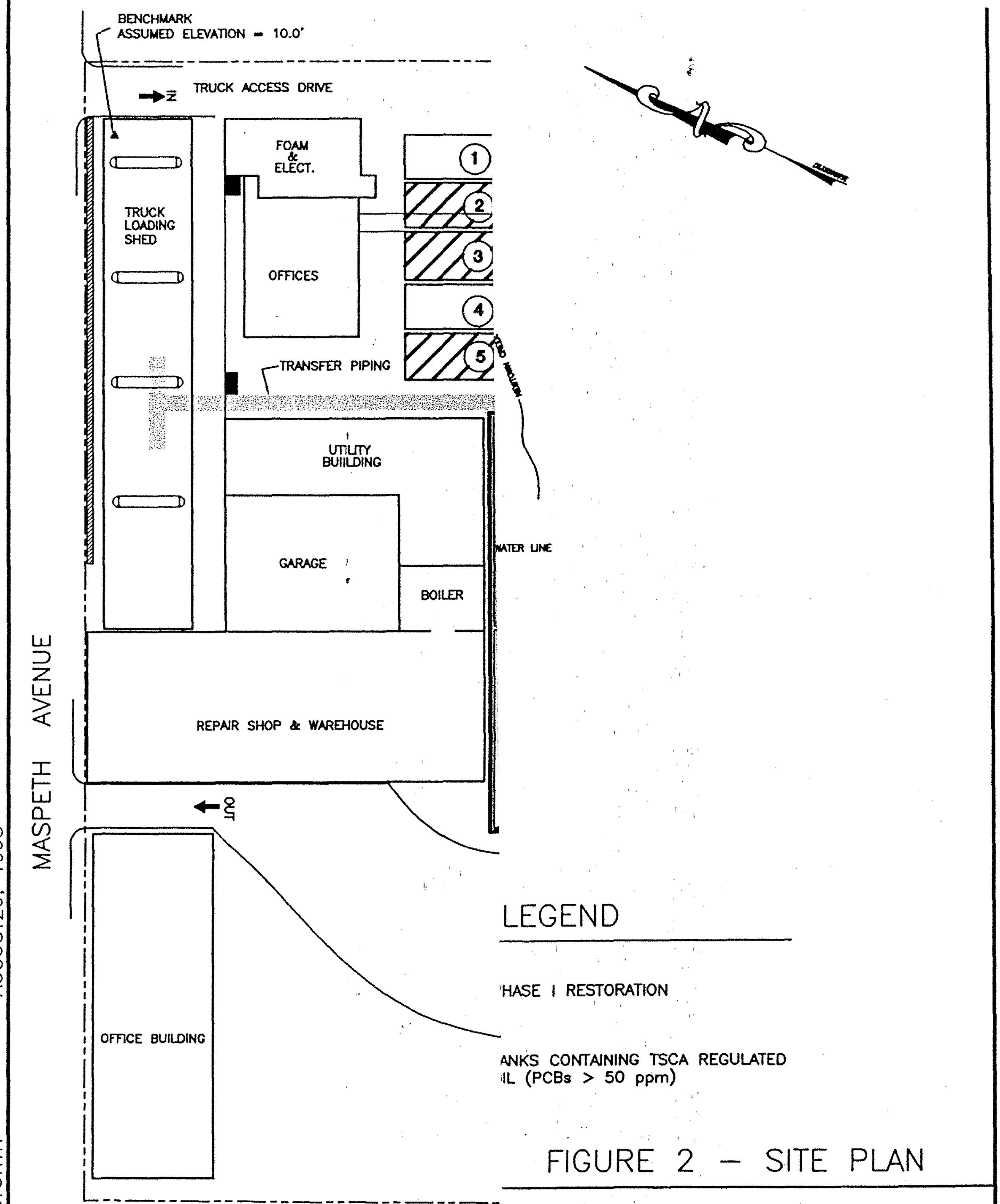

FIGURE 2 – SITE PLAN

B.C.F. OIL REFINING FACILITY
BROOKLYN, NEW YORK

DATE: AUGUST, 1998
PROJECT NO. 38808.10000

38808.RESTORTN AUGUST20, 1998

3) a two-story, masonry structure housing vibratory screening equipment for filtering solids;

4) four heated, 110,000 gallon vertical aboveground tanks (nos. 11, 12, 14, 17) within a concrete secondary containment dike, used for storage of finished product;

5) a loading rack located on Maspeth Avenue for dispensing product to fuel distributors; and

6) single-story masonry structures housing offices, a testing laboratory, and steam generating boilers for heating the tanks.

During operation, incoming waste materials were first tested to determine that they met the requirements of the Facility's Part 360 Permit, which prohibited the intake of regulated hazardous wastes, including materials containing polychlorinated biphenyl compounds (PCBs). After testing, the incoming materials were off-loaded into one of several underground tanks for processing. The materials were heated to induce separation of water and solids, filtered in the screen house, and blended to create a fuel oil similar in performance characteristics to a Number 6 Fuel Oil.

In addition to testing of incoming waste materials, BCF also conducted weekly testing of its finished product to insure that it did not contain PCBs or unpermitted levels of halogenated solvents.

Under its SPDES permit, BCF was permitted to discharge water through its oil/water separator into Newtown Creek. Accordingly, BCF's customers sometimes delivered oily water to be processed and appropriately disposed of.

In April of 1994, the contents of BCF's tanks were inadvertently contaminated by PCBs. Records maintained by BCF and subsequent chemical testing indicate that the contamination was probably caused by a single delivery that contained a large quantity of PCB transformer oil. The contamination was discovered in the course of BCF's weekly testing of its processed oil. By the time the PCB discovery was confirmed and BCF's operations ceased, the contamination had been circulated into a number of the underground and aboveground tanks. The facility has been closed since that time, maintaining only a minimal work force for security and maintenance of the premises.

1.2 Description of Contamination

Tank Contents

In 1995 and 1997, Rust Environment & Infrastructure, Inc. conducted measurements and analytical testing of the contents of each tank for the purpose of 1) characterizing the contamination that had been introduced in 1994, 2) quantifying the volumes of the various of waste materials, and 3) obtaining preliminary information concerning the cost of decontamination of the tanks and related process equipment.

The results of the 1995 study are described in the report "Analysis of Contaminated Oil, BCF Oil Refinery, Brooklyn, NY," August, 1996. The 1995 study revealed the presence of PCB's in all but two of the tanks (nos. 9 and 10). Eight of the UST's and two of the AST's contained oil or oil/water mixtures with PCB concentrations between 6 and 42 ppm - - below the 50 ppm level at which these materials are regulated as hazardous wastes. The contents of three UST's (nos. 2, 5, 12) and two AST's (nos. 11 and 14) were found to be contaminated with PCB's at concentrations between 99 and 525 ppm. The analyses detected only Aroclors 1242 and 1260, two of the three Aroclors that were typically used in formulating transformer Askarel fluids.

The oil in the AST with the highest PCB concentration (no.11) was also analyzed for the full target compound list of organic parameters by SW-846 Methods 8260 and 8270. Isomers of dichlorobenzene and trichlorobenzene[1] were detected at concentrations ranging from 2 - 220 ppm. Other halogenated compounds, including TCE, 111-TCA, perchloroethylene, and two chlorofluorocarbon compounds were detected at concentrations of 1 to 41 ppm.

[1]Trichlorobenzenes typically comprised between 40 and 60 percent by weight of the original transformer Askarel fluids.

The contents of the tanks consist of stratified solid and liquid material, including (in ascending layers) solid sediment and sludge, water, oil/water emulsions and oil. In May of 1997, Rust measured the thicknesses of these materials in each tank. The approximate depth to the oil/water interface was measured with an oil/water interface probe, and the depth to the sediment/sludge layer was measured by probing with a metal rod. The measurements obtained in this fashion are approximate because the interface between some of the layers is gradational. Discrete samples of the different layers were collected and analyzed for the purpose of determining whether the PCB contamination had been mixed throughout the stratified tank contents.

The volume of the oil, water and solid/sludge layers in each tank are shown in Table 1. As summarized in the table, there are a total of approximately 597,000 gallons of sludge, oil and water in the BCF tanks. Of that total, approximately 359,000 gallons are oil; 72,000 gallons are water or water with emulsified oil; and 171,000 gallons (2,200,000 lbs.) are sludge and solids.

The results of the PCB analyses performed on samples of the different materials are summarized in Table 2. In general, the PCB concentrations measured in the oil fraction of each tank are comparable to the results of Rust's 1995 study. The exception is Tank no. 3, which produced 340 ppm in the 1997 sample and 42 ppm in the 1995 sample. The higher concentration in the 1997 oil sample may reflect the effort to exclude the water layer when the sample was collected.

In the sludge samples, PCB's are non-detectable or well below the 50 ppm hazardous waste level, and significantly lower than the PCB concentrations in the overlying oil layer. This indicates that mixing between the 1994 slug of PCB contamination and the older accumulations of sludge was limited or non-existent.

Table 1
Estimated Waste Quantities
BCF Oil Refining, Inc.
Brooklyn, New York

TANK	Tank Volume (gall)	Estimated total Product (gall)	Oil (NAPL) Volume (gall)	Aqueous Volume (gall)	Sludge/Solids Volume (gall)	Sludge/Solids Weight (lb)
1	20,000	18,392	1,260	11,460	5,672	72,037
2	20,000	19,602	8,500	2,300	8,802	111,790
3	20,000	19,506	7,260	3,360	8,886	112,857
4	20,000	19,771	5,740	1,120	12,911	163,977
5	20,000	11,468	8,820	8,532	0	0
6	20,000	16,961	4,060	380	12,521	159,023
7	20,000	14,741	6,820	1,120	6,801	86,376
8	20,000	16,961	760	3,760	12,441	158,007
9	20,000	18,392	2,060	7,980	8,352	106,075
10	20,000	13,011	3,680	9,000	331	4,204
11	110,000	86,795	86,795	0	0	0
12	110,000	83,768	83,768	0	0	0
14	110,000	72,329	72,329	0	0	0
15a	20,000	19,082	0	5,680	13,402	170,208
15b	20,000	19,102	4,620	0	14,482	183,924
15c	20,000	19,202	0	6,440	12,762	162,080
15d	20,000	19,182	3,280	3,860	12,042	152,935
15e	20,000	17,601	240	3,520	13,841	175,794
16a	25,000	17375	500	2,250	14,625	185,745
16b	25,000	17,250	1,500	2,125	13,625	173,045
17 (old #13)	110,000	57,190	57,190	0	0	0
	790,000	597,680	359,182	72,887	171,495	2,178,078

	gallons	gallons	gallons	gallons	lbs
TCSA Vol (> 50 < 500 ppm)	293,468	267,472	14,192	17,688	224,647

<u>Assumptions:</u>

1. Tanks 15a - 15e are each equal volume subsections of 100,000 gallon tank (21.29'x62.8'x10' deep).
2. Tanks 16a and 16b are equal subsections of 50,000 gallon tank (10 feet deep).
3. Sludge unit weight assumed to be 95 lb/cf.
4. TSCA volume estimates assume that any sludge or water layer in a tank containing TSCA regulated oil would itself be TSCA regulated.

TABLE 2
TANK OIL, SLUDGE and WATER PCB DATA
SUMMARY OF HITS
BCF
MAY 1997

OIL (ug/kg)		SLUDGE (ug/kg)		WATER (ug/l)	
Sample	Aroclor 1260	Sample	Aroclor 1260	Sample	Aroclor 1260
Tank 1	30,000	Tank 3	16,000	Tank 1	1.7
Tank 2	89,000	Tank 4	<370		
Tank 3	340,000	Tank 15	4,200		
Tank 4	29,000	Tank 16	<470		
Tank 5	100,000				
Tank 6	27,000				
Tank 7	43,000				
Tank 8	<4,700				
Tank 9	<4,800				
Tank 9L*	<4,500				
Tank 10	<4,700				
Tank 11	490,000				
Tank 12	80,000				
Tank 14	290,000				
Tank 15	24,000				
Tank 16	30,000				
Tank 17	<4,900				

* Tank 9L was an analysis of the water fraction of an emulsion.

BCF 1.4 0271

Table 1 shows the estimated volume of solids, oil and water that would be TSCA regulated. These estimates are conservatively high because they assume that any sludge or water layer in a tank containing TSCA regulated oil would itself be TSCA regulated regardless of its actual PCB concentration.

A sample of oil from Tank 11 was also analyzed for total metals and TCLP parameters. The results of these analyses are summarized in Tables 3 and 4. A variety of metals were detected at concentrations of 1 to 84 ppm. The species of metals found are consistent with the metals typically found in used motor oils. None of the parameters detected in the TCLP extract were present at levels that would cause the oil to be regulated as a hazardous waste under RCRA.

Subsurface Contamination

In April, 1998 Rust conducted a preliminary subsurface investigation of the BCF facility to preliminarily characterize the nature of any subsurface soil and groundwater contamination that could have resulted form the long history of industrial use of the subject property or from releases of contaminants on adjoining properties. Such potential contamination could include petroleum hydrocarbon compounds found in the petroleum products stored at the site when it was a fuel terminal and in the waste oil processed there in recent history. The potential contamination might also include non-petroleum constituents that have been identified in the waste oil in the BCF tanks, including the aforementioned PCBs, chlorobenzene compounds, and halogenated solvents.

Seven pre-existing monitoring wells were gauged to determine water levels and the presence of any LHC accumulations. Soil samples were collected from six soil boring locations using a direct-push (Geoprobe) technique. Samples from the interface between the saturated and unsaturated zone, where liquid hydrocarbon compounds (LHC) were likely to accumulate, were submitted for analysis. Additional samples were submitted from a shallow interval that produced elevated photoionization detector (PID) readings, and from an interval in the saturated zone that contained entrained LHC. Groundwater samples were collected from three of the monitoring wells. A sample of LHC was collected from a fourth monitoring well. Samples were analyzed for Volatile Organic Compounds

TABLE 3
TANK 11 OIL
TOTAL METALS and PHYSICAL/CHEMICAL RESULTS
BCF
MAY 1997

METALs (mg/kg)	RESULT
Aluminum	6.5 B
Antimony	<0.35
Arsenic	<0.37
Barium	28.1
Beryllium	<0.02
Cadmium	0.15 B
Calcium	83.4 B
Chromium	0.32 B
Cobalt	<0.18
Copper	4.7
Iron	93
Lead	19.6
Magnesium	28.7 B
Manganese	0.83 B
Mercury	<0.03
Nickel	1.3 B
Potassium	43.3 B
Selenium	<0.26
Silver	<0.15
Sodium	197 B
Thallium	<0.41
Vanadium	2.2 B
Zinc	84
Physical/Chemical Results	
Sulfur (% w/w)	0.32
BTUs/lb	16,700
Chlorine, total (mg/kg)	1,130
Chloride (mg/kg)	17.7
Ash (% w/w)	<0.3
Reactive Sulfide (mg/kg)	<10
Corrosivity (pH)	4.02
Reactive Cyanide (mg/kg)	<29.3

TABLE 4
TCLP RESULTS
TANK 11 OIL
BCF
MAY 1997

Volatile Organics	Result	Regulatory Limit
Vinyl Chloride	<0.025	0.2
1,1-Dichloroethene	<0.025	0.7
2-Butanone	0.14	200
Chloroform	<0.025	6
Carbon Tetrachloride	<0.025	0.5
Benzene	0.2	0.5
1,2-Dichloroethane	<0.025	0.5
Trichloroethene	<0.025	0.5
Tetrachloroethene	0.04	0.7
Chlorobenzene	<0.025	100
Semi-Volatile Organics		
Pyridine	<0.050	5
1,4 -Dichlorobenzene	<0.050	2
2-Methylphenol*	0.17	200
4-methylphenol*	0.26	200
Hexachloroethane	<0.050	3
Nitrobenzene	<0.050	2
Hexachlorobutadiene	<0.050	0.5
2,4,6-Trichlorophenol	<0.050	2
2,4,5-Trichlorophenol	<0.120	400
2,4-Dinitrotoluene	<0.050	0.13
Hexachlorobenzene	<0.050	0.13
Pentachlorophenol	<0.120	100
Herbicides/Pesticides		
Lindane	<0.1	0.4
Heptachlor & H. Epoxide	<0.003	0.008
Endrin	<0.005	0.02
Methoxychlor	<1	10
Technical Chlordane	<0.01	0.03
Toxaphene	<0.1	0.5
2,4-D	0.210 J	10
2,4,5-TP	0.021 J	1
Metals		
Arsenic	0.0123	5
Barium	0.415	100
Cadmium	0.0338	1
Chromium	<0.0024	5
Lead	1.79	5
Mercury	<0.020	0.2
Selenium	0.0321	1
Silver	<0.003	5

All Values Expressed In mg/l
* Applies to total of all cresols

(VOCs) by USEPA SW-846 Method 8021 (full parameter list), PAHs by USEPA SW-846 Method 8270 (NYSDEC STARS parameters only), and PCBs by USEPA SW-846 Method 8082.

The chemical analytical results of the investigation indicate that the sampled areas have not been impacted by the PCB contamination that was inadvertently introduced into BCF's processing system in 1994. No PCB Aroclors of the types found in BCF's tanks were detected in the soil or groundwater samples. Only very low (0.5 to 1.6 ppm) concentrations of a different Aroclor were found in two soil samples from beneath the roadway leading into the facility. These concentrations are well below the NYSDEC recommended subsurface cleanup level of 10 ppm. None of the halogenated organic compounds (chlorinated solvents, chlorobenzenes, and chloro-fluorocarbon compounds) found in BCF's system have been identified in the soil or groundwater samples. Such halogenated substances are comparatively mobile due to their volatility and relatively high solubility in groundwater, and could have migrated to the monitoring wells and soil sampling locations if they had been released in sufficient quantity.

Petroleum hydrocarbon contamination of varying characteristics was found in a number of locations. The contamination is present in the non-aqueous phase (i.e. LHC) and is retained in the saturated and unsaturated zones. The physical and chemical properties of the contamination at these different locations suggest a number of different sources and an extended history of releases. The following observations support this conclusion:

- The ratios of the many chemical compounds that comprise petroleum products are highly variable, indicating different sources of contamination and/or different degrees of aging. For example, the total concentration of VOC's in the soil from SB-06 is nearly three times the total concentration of PAH compounds in that sample. At all other locations, the total concentration of VOC's is less than the total concentration of PAH compounds.

- VOC concentrations are extremely low or absent in borings SB-01 and SB-04, suggesting that the petroleum residues present at these locations are highly weathered (aged).

- GC/MS analyses indicate the presence of low, unquantified levels of MTBE in soil and groundwater at several locations. MTBE has only been in general use as a gasoline additive since the early 1980s, and thus would not have originated from historical petroleum terminal operations on the site. Since BCF did not accept gasoline for processing, the prevalence of industrial and fuel distribution activity in the areas surrounding BCF suggests the possibility of impact by an off-site release of gasoline.

LHC in the vicinity of a single monitoring well near the loading rack appears to be present in mobile quantities capable of migrating through the soil above the water table. In other areas, LHC appears to be present at residual saturation and therefore unable to migrate in the non-aqueous phase. The LHC trapped below the water table in one of the soil borings is an example of such contamination.

The extent to which petroleum contamination may be migrating onto or away from the BCF site can not be assessed without more complete understanding of the groundwater dynamics at the site. Groundwater flow is influenced by a number of factors, including the presence of sewers, buried gas pipelines and the tidal fluctuation of Newtown Creek. The water table beneath the site is expected to fluctuate vertically under the tidal influence of Newtown Creek. The single round of groundwater elevation measurements conducted during this investigation suggests a temporal gradient toward Maspeth Avenue. This gradient may lessen or even reverse direction during low tide or certain seasonal conditions.

1.3 Objectives and Project Overview

The objectives of this project are to

1) restore BCF to fully permitted operation as a waste oil and oily water processing facility;

2) decontaminate all PCB contaminated tanks and process equipment as necessary to meet applicable regulatory standards and marketplace requirements;

3) after decontamination, close in place all underground tanks; and

4) cleanup on-site subsurface petroleum contamination as appropriate for an exposure scenario consistent with the site's use as a waste oil recycling facility.

Key components of this project include the following:

Phased Tank and Equipment Cleanup BCF does not require the use of all its tank space and processing equipment to resume oil recycling operations. During the first phase of the cleanup, BCF will decontaminate a limited portion of the facility which will then be used to resume production of recycled oil that meets all regulatory and marketplace requirements. Appropriate engineering safeguards will be employed to ensure that remaining contaminated materials will not be introduced into the recycled oil, and that resumed operations will not create any additional contamination. Following the first phase of the cleanup, BCF will proceed with the scheduled remediation of the remaining process equipment. This approach will enable the cost-effective use of the limited number of TSCA permitted incinerators by allowing the nearly 300,000 gallons of TSCA regulated waste to be shipped incrementally to incinerators as their capacity permits.

In-place Closure of Underground Tanks The ten 20,000 gallon steel USTs (reportedly contained within individual concrete vaults) and the 150,000 gallon process tank will be decontaminated in accordance with all applicable regulations. The size, construction, and close proximity of the tanks to several on-site structures present significant engineering obstacles to excavation of the tanks. Accordingly, the decontaminated tanks will be closed in place. All future processing and storage functions will take place in aboveground tanks.

Petroleum Source Removal BCF will engage in the removal of subsurface liquid hydrocarbon (LHC) contamination by instituting a system to recover free product from the soil and groundwater. The recovered LHC will be processed internally by BCF in the course of its normal waste oil processing activity.

<u>Groundwater Monitoring</u> A system of groundwater monitoring wells will be sampled on a regular basis. The samples will be analyzed for petroleum hydrocarbon compounds as well as non-petroleum constituents that were inadvertently introduced into the BCF tanks. The groundwater monitoring system will facilitate the evaluation of the petroleum source removal program and the potential migration of any unknown, subsurface releases of PCB's.

2.0 SCOPE OF WORK

This section outlines the activities that will comprise the restoration of the B.C.F. Oil Refining facility. Certain methodologies and materials are also specified, although detailed procedures and specifications, including a Field Sampling Plan and QAPP will be prepared as part of the final Work Plan. The final Work Plan will provide a schedule for completion of the restoration activities. The final Work Plan will also provide for submission of a Spill Contingency Plan, Emergency Response Plan, Health and Safety Plan, and Traffic Control Plan.

2.1 Sequencing

The restoration will proceed in sequential phases as described below.

2.1.1 Phase 1

The objective of the first phase of site restoration is to decontaminate a limited portion of the facility which will then be used to resume production of recycled oil that meets all regulatory and marketplace requirements. As shown in Figure 2, Phase 1 will focus on the area encompassing the following equipment:

- 20,000 gallon underground storage tanks 6-9 (to be closed in place)
- oil/water separator (to be closed in place)
- 150,000 gallon preprocess and holding tank (Tanks 15, 16 - to be closed in place)
- screen house
- product storage tank no. 17
- transfer piping and truck loading rack.

None of the tanks in the Phase 1 area contains materials with PCB concentrations greater than 50 ppm. The following sequence of activities will be performed in Phase 1:

1) Cut and plug all aboveground and underground oil lines leading to contaminated tanks outside of the Phase 1 area.

2) Drain all piping, decontaminate interiors of piping as outlined below or dismantle and dispose of as scrap metal.
3) Evacuate the contents of all tanks and dispose of as non-TSCA regulated waste. Decontaminate tanks as outlined below.
4) Close all underground tanks in place.
5) Sample surfaces of screening equipment and truck unloading trough, and decontaminate as outlined below or dispose of off site and replace.
6) Install new, aboveground tanks in the area overlying tanks 6-10, 15 and 16.
7) Install new, aboveground oil/water separator designed to achieve SPDES permit limits.
8) Institute groundwater monitoring program as outlined below.
9) Apply for Part 360 and SPDES permits and resume oil recycling operations when permits are issued.

2.1.2 Phase 2

Phase 2 activities will be conducted on a schedule to be based on TSCA incinerator capacity and other constraints. The following sequence of activities will be performed in Phase 2:

1) Begin shipments of TSCA regulated oil and oil/water mixtures form Tanks 2 ,3, 5, 11, 12 and 14 to approved disposal facility.
2) Implement the approved plan for subsurface LHC recovery and on-site recycling.
3) As tanks are emptied of their wastes, decontaminate tank interiors as outlined below. Decontaminate piping or drain and dispose of as outlined below. After decontamination, close underground tanks in place and resume use of existing aboveground tanks for product storage.
4) Continue groundwater monitoring program.

2.2 Decontamination

Decontamination procedures will be implemented in accordance with regulations that apply to particular types of surfaces, equipment and PCB concentrations.

2.2.1 Non TSCA Regulated Tanks

Tanks 1, 4, 6-10 and 15-17 contain waste materials with PCB concentrations below 50 ppm. Because the source and age of any PCBs in these tanks is not known, the tanks are not regulated under TSCA. The oil, oil/water mixtures and sludges in these tanks will be removed by a Vactor truck, Vactainer with CUSCO high powered vacuum unit, or similar equipment. The tank interiors will be manually cleaned with pressure washers to remove all visible residues of waste oil and sludge. Following decontamination and inspection of the interior surfaces, the tanks will be closed in place by filling with appropriate fill material.

2.2.2 TSCA Regulated Tanks

The oil and oil/water mixtures in Tanks 2, 3, 5, 11, 12 and 14 contain PCB concentrations in excess of 50 ppm. This oil and any surfaces contacted by the oil are TSCA regulated. The oil, oil/water mixtures and sludges in these tanks will be removed by a "Vactor" truck, "Vactainer" with CUSCO high powered vacuum unit, or similar equipment. The tank interiors will be manually cleaned with pressure washers and, if necessary, a surfactant cleaning agent to remove all visible residues of waste oil and sludge. Following manual cleaning, the interior surfaces will be triple-rinsed with a volume of diesel fuel equivalent to 10% of the tank volume. Confirmatory wipe test sampling of the tank interiors will not be required.

2.2.3 Piping and Miscellaneous Equipment

Any pipes used for transfer of material and finished product (excluding steam generation and condensate lines) that are deemed suitable for continued use will be decontaminated by heating, pigging and rinsing the pipes. The viscosity of materials contained in the underground- and aboveground piping increases significantly at lower temperatures. The on-site steam system that was used to heat the tank contents has been shut down since 1994, resulting in cooling and thickening of the pipe contents. The piping will be heated by passing steam through the piping until the pipe is thoroughly heated. Pigging of the pipes shall be performed immediately after the steam injection is discontinued, while the piping is still hot. Pigs will be soaked in TecXtract (or equivalent cleaning agent). Immediately following pigging of the pipes, the pipes will be flushed once with diesel fuel containing less than 50 ppm PCB to remove any material loosened by the pigging.

All residue form screen house surfaces (including walls, floors ceilings, screening equipment, piping, oil unloading equipment and area outside the building) will be mechanically removed using hand scraping and a 3,000 psi "hotsy" (or equivalent) pressure washer. Permeable surfaces (concrete, ceiling tiles etc.) will be chip sampled in accordance with the USEPA Spill Policy. Permeable materials found to contain PCB's in excess of 25 ppm will be scarified or disposed of at a permitted facility.

Any screening equipment or other impermeable surfaces deemed suitable for reuse will be wipe sampled in accordance with the USEPA PCB Spill Policy. Surfaces found to exceed a PCB level of 10 ug/100 cm^2 will be decontaminated by manual cleaning with "TecXtract" or a similar cleaning agent.

2.3 Disposal of Waste and Equipment

Off-site disposal of waste materials and equipment will be implemented in accordance with regulations that apply to particular types of wastes, equipment and PCB concentrations.

2.3.1 Non TSCA Regulated Waste

Oils or oil/water mixtures with less than 50 ppm (from Tanks 1, 4, 6-10 and 15-17) may be disposed of by incinerating in industrial furnaces or cement kilns that are permitted to accept such materials. For the purpose of disposal, non-TSCA regulated waste oils may be blended with other non-hazardous oils to reduce the PCB concentration

Sludges containing no free liquids may be landfilled in an permitted industrial landfill or treated by a thermal desorption facility permitted to accept such materials.

2.3.2 TSCA Regulated Waste

Oils and oil/water mixtures containing PCB concentrations in excess of 50 ppm will be incinerated in a TSCA approved facility.

Sludges, devoid of free liquid, containing greater than 50 ppm and less than 500 ppm PCBs, will be disposed of by landfilling in a TSCA permitted chemical waste landfill. Although no such materials have been identified at this site, any sludges containing greater than 500 ppm PCBs will be incinerated at a TSCA approved incinerator.

Some sludges in tanks containing TSCA regulated oils have been shown to have been isolated from those oils. These sludges have less than 50 ppm PCBs. In such cases, application will be made to the USEPA for permission to dispose of these sludges as non-TSCA regulated solids.

2.3.3 PCB Contaminated Piping and Equipment

Piping, pumps, valves and other similar equipment meet the definition of PCB Article in 40 CFR 761.3. If such equipment contains oil with between 50 and 500 ppm PCBs, the equipment will be drained of all free flowing oil and the oil will be disposed of in a TSCA permitted incinerator. The drained equipment may then be managed as scrap metal. If the equipment contains oil with greater than 500 ppm PCBs, the equipment will be drained of all free flowing oil and the drained equipment will be disposed of in a TSCA permitted chemical waste landfill

2.4 Underground Tank Closure and Leak Response

The size, construction, and close proximity of the tanks to several on-site structures present significant engineering obstacles to excavation of the tanks. Accordingly, the decontaminated tanks will be closed in place. Upon completion of underground tank decontamination, all openings to the tank will be sealed with boiler plugs or other measures will be taken to prevent fluids from draining into the tank. The manway and other piping will be cut at grade level and removed. The tank will be completely filled with a concrete slurry.

In the event that an unvaulted underground tank is found to perforated, up to three holes will be bored through the tank for the purpose collecting samples of soil for analysis. The results of the analysis will be considered in the development of the long-term groundwater monitoring plan.

2.5 LHC Recovery

Petroleum hydrocarbon contamination of varying characteristics was found in a number of locations. The contamination is present in the non-aqueous phase (i.e. LHC) and is retained in the saturated and unsaturated zones. LHC in the vicinity of MW-1 appears to be present in mobile quantities capable of migrating through the soil above the water table. In other areas, LHC appears to be present at residual saturation and therefore unable to migrate in the non-aqueous phase. The LHC trapped below the water table at soil boring SB-05 is an example of such contamination.

At the conclusion of Phase 1, BCF will implement an LHC recovery system for the purpose of recovering the mobile (non-residual) LHC in the vicinity of MW-1. Initially, the system will employ an "Oil Mop" oleophilic belt or similar device. The recovered LHC will be recycled on-site. If warranted by LHC yields, additional recovery wells may be installed in the vicinity of the loading rack. If the rate of LHC recovery by the "Oil Mop" declines, BCF will investigate the feasibility of enhancing LHC recovery through induced water table depression.

2.6 Environmental Monitoring

A total of eight monitoring wells have been installed at the BCF facility pursuant to the Major Petroleum Facility License issued on April 8, 1992. The construction details and current condition of these monitoring wells will be evaluated to determine their suitability for a long-term groundwater monitoring program. Following this evaluation, BCF will submit to the DEC recommendations for upgrading the monitoring well system, addressing potential installation of additional wells or redevelopment/refurbishment of the existing wells.

Following the monitoring well system upgrade, BCF will implement a long-term groundwater monitoring program of quarterly sampling of the monitoring wells. The sampling program will designed to evaluate the petroleum source removal program, and the potential migration of any unknown, subsurface releases of PCB's. The potential impact of tidally induced water table fluctuations on groundwater quality will be considered in developing the groundwater monitoring plan. Results of the groundwater monitoring program will be submitted to the DEC for review.

BCF 1.4 0286

Rust Environment & Infrastructure

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

JUL 11 2000

ACTION MEMORANDUM

DATE:

SUBJECT: Request for a Removal Action, Ceiling Increase and Exemption from the $2 Million and 12-Month Statutory Limits at the BCF Oil Refining Site, Brooklyn, New York

FROM: Thomas P. Budroe, On-Scene Coordinator John Witkowski for
Removal Action Branch

TO: Jeanne M. Fox
Regional Administrator

THRU: for Richard L. Caspe, Director Wm McCabe
Emergency and Remedial Response Division

Site ID #: PU

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of the removal action described herein, an Exemption from the $2 Million and 12-month Statutory Limits and a Ceiling Increase for the BCF Oil Refining Site (Site) located at 360-362 Maspeth Avenue Brooklyn, Kings County, New York, 11211.

Previous funding authorized by the Deputy Division Director's May 19, 2000, verbal authorization established a total project ceiling of $50,000 and a mitigation contract ceiling of $45,000. A second verbal authorization for $65,000, of which $50,000 is for mitigation contracting, was provided by the Division Director's on June 20, 2000, establishing a total project ceiling of $115,000 and a mitigation contract ceiling of $95,000. The removal action was initiated on May 25, 2000, and is on-going. Current actions consist of site control and security. The proposed ceiling increase of $4,837,000 would establish a new project ceiling of $4,952,000 to fund the removal of approximately 600,000 gallons of oil, water and sludge contaminated with polychlorinated biphenyls (PCBs) and other hazardous substances, demolition and removal of the contaminated tanks, removal of contaminated soil and other media.

As described in Sections II and III, the Site meets the criteria for a removal action under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. §§ 9601-9675, as described in Section 300.415(b) of the National Contingency Plan (NCP).

The Site is not on the National Priorities List (NPL) and there are no nationally significant precedent setting issues associated with this proposed removal action.

II. SITE CONDITIONS AND BACKGROUND

The Comprehensive Environmental Response, Compensation, and Liability Information System number for this time-critical removal action is NYD068273044.

A. Site Description

1. Removal site evaluation

From 1980 to 1994 the Site was used by B.C.F. Oil Refining, Inc. (BCF) and its predecessor Calleia Bros, Inc., as a waste oil processing facility. The Site is currently abandoned. The Site is located at 360-362 Maspeth Avenue, Brooklyn, New York. The site location map is depicted in Figure 1 of Attachment 1. When it was in active operation, the facility processed various waste oils, tank bottoms and oily water mixtures to produce a fuel oil that was sold for use in commercial boilers. In 1994 the facility closed after PCB contamination was discovered in all but two of the tanks. Limited sampling indicates the concentrations of PCBs in the contaminated tanks range from less than 50 parts per million (ppm) to 630 ppm. At present, BCF continues to store the oil with high levels of PCBs in very old tanks of uncertain tightness and integrity. New York State law, 6 New York Code of Rules and Regulations §374-2.2(a)(2)(i)(a), requires that mixtures of used oil and hazardous wastes shall be regulated as hazardous wastes. Further, §374-2.2(a)(2)(i)(c) specifically provides that used oil containing PCBs over 50 parts per million is presumed to be a hazardous waste. As described above, PCBs have been found in the tanks at levels of up to 630 ppm.

The facility contains twelve underground storage tanks (USTs) (Tanks 1-10, 15, 16) for processing raw materials and four above ground storage tanks (ASTs) (Tanks 11,12, 14, 17) for storage of the finished products. The locations of the tanks are depicted on Figure 2 of Attachment 1. The facility had been operating under a New York State Department of Environmental Conservation (NYSDEC) Part 360 permit as a waste oil reprocessor since August 21, 1992 and was not authorized to handle hazardous waste. During operation, at least some of the incoming waste materials were first tested to determine that they met the requirements of the facility's NYSDEC Part 360 permit, which prohibited the intake of regulated hazardous wastes, including materials containing PCBs. After testing, the incoming materials were off-loaded into one of several underground tanks for processing. The materials were heated to induce separation of water and solids, filtered in the screen house, and blended to create a fuel oil similar in performance characteristics to a number 6 fuel oil. The finished material was then transferred to one of the four above ground tanks for storage and sale. During part of the period of the facility's operation, BCF also conducted weekly testing of its finished product to ensure that it did not contain PCBs or unpermitted levels of halogenated solvents. BCF had a State Pollution Discharge Elimination System (SPDES) permit, and discharged waste water through its oil/water separator into English Kills.

In April of 1994, the contents of BCF's tanks were contaminated by PCBs. Records maintained by BCF and subsequent chemical testing indicate that the contamination may have been caused by one or more deliveries which contained a large quantity of PCB transformer oil. The contamination was discovered in the course of BCF's weekly testing of its processed oil. On or about August 3, 1994, BCF sampled the contents of each of the 16 tanks and submitted the samples to Dexsil Laboratory, Hamden, Connecticut for PCB analysis. Dexsil reported the presence of PCBs in all of the samples at concentrations ranging from 1 to 630 ppm. Concentrations exceeded 50 ppm in Tanks 2, 5, 11, 12, and 14. By the time site operations ceased, the PCB contamination had been circulated into and through a number of the underground and above ground tanks. NYSDEC reported that BCF staff were first notified on April 22, 1994 of the presence of hazardous waste, but accepted 316,231 gallons of waste in May 1994 and 228,208 gallons in June 1994. The facility closed in August 1994, but BCF thereafter maintained a minimal work force for security and maintenance of the premises.

In August 1994, the NYSDEC removed waste and residual materials in the fiberglass box-oil/water separator in the northwest area of the Site. The NYSDEC also rerouted the Site storm water drain pipes so that all storm water was directed to this oil/water separator. This oil/water separator discharges to English Kills. At some time later, the U.S. Coast Guard reportedly shut down the primary oil/water separator on Site by plugging the discharge line.

The NYSDEC refused to renew BCF's Major Onshore Storage Facility (MOSF) license by letter dated April 25, 1995, based upon the contamination at the facility.

In January 1995 under contract to BCF, Rust Environment & Infrastructure, Inc. (RUST) sampled the contents from two of the tanks for the purpose of determining the composition and concentration of the previously identified PCB contamination. The results of the 1995 study are described in RUST's report Analysis of Contaminated Oil, BCF Oil Refinery, Brooklyn, NY, dated August 1996. The 1996 RUST report revealed that eight of the USTs and two of the ASTs contained oil or oil/water mixtures with PCB concentrations between 6 and 42 ppm. The contents of three USTs (nos. 2, 5, 12) and two ASTs (nos. 11 and 14) were found to be contaminated with PCBs at concentrations between 99 and 525 ppm.

On April 18, 1995, CH2M Hill, Inc. , sampled BCF's four ASTs and 12 USTs on behalf of Consolidated Edison Company of New York, Incorporated. Composite samples were collected, subsequently split with RUST and analyzed for PCBs. The results of the PCB analyses were similar, with some moderate differences, to the PCB results obtained by RUST's split sample analysis.

During the above study, analysis of the oil in the AST with the highest PCB concentration (no. 11) indicated isomers of dichlorobenzene and trichlorobenzene at concentrations ranging from 2 to 220 ppm. Other halogenated compounds detected included trichloroethylene, 1,1,1-trichloroethane, perchloroethylene and two chlorofluorocarbon compounds. These compounds were detected at concentrations up to 41 ppm. Benzene, toluene, ethyl benzene, xylenes and other volatile organic compounds were also detected.

In May 1997, RUST measured sediment, sludge, water, oil/water emulsions and oil in each tank. The approximate depth to the oil/water interface was measured with an oil/water interface probe, and the depth to the sediment/sludge layer was measured by probing with a metal rod. It was determined that there is approximately 597,000 gallons of sludge, oil and water in the BCF tanks on-site. Of this total, approximately 359,000 gallons are oil; 72,000 gallons are water or water with emulsified oil; and 171,000 gallons are sludge and solids.

Analytical results of the tank contents from the May 1997 RUST sampling indicated PCB contamination in 12 of the 16 tanks, with the highest concentration of PCBs being 490 ppm.

In May 1997, RUST also collected an oil sample from tank 11, which was analyzed for target analyte list (TAL) and toxicity characteristic leaching procedure (TCLP) parameters. TAL analysis of the above oil sample evidenced the following hazardous substances: copper, lead and zinc. During a 1998 Preliminary Subsurface Investigation (PSI), RUST gauged seven on-site monitoring wells with an interface probe to determine the thickness of any petroleum product accumulation in the wells. Monitoring well MW-1, located at the edge of Maspeth Avenue adjacent to the facility's loading racks, contained approximately 3.74 feet of brown-colored product having a consistency similar to Number 2 Oil. Monitoring well MW-6, located on the southern side of the Site, contained a viscous, dark-brown to black petroleum substance which fouled the interface probe and prevented accurate measurement of the petroleum/water interface. RUST collected groundwater samples from three monitoring wells (these wells were installed prior to 1993 as a condition of the Facility's NYSDEC MOSF License). Analysis of the groundwater samples evidenced the following hazardous substances: benzene, ethylbenzene, isopropylbenzene, naphthalene, xylene and toluene.

The June 1998 PSI report prepared by RUST stated that, based on very limited data, groundwater would be expected to flow toward Maspeth Avenue and Newtown Creek.

The groundwater elevation is between two and ten feet below the ground surface and is influenced by tidal effects.

In May 1998, RUST collected soil samples from six soil boring locations using a Geoprobe. Samples were collected at intervals from 0 to 4 feet, 4 to 8 feet, 8 to 12 feet and 12 to 16 feet below grade. Photoionizaton Detector (PID) screening of these samples indicated volatile organic compounds (VOCs) as high as 2672 ppm. Analysis of the above soil samples evidenced the following hazardous substances: benzene, ethylbenzene, isopropylbenzene, naphthalene, xylene, toluene, acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, pyrene and aroclor 1254.

The August 1998 soil boring report prepared by RUST stated that the petroleum hydrocarbon contamination of varying characteristics was found in a number of locations. The report further stated that the contamination is present in the non-aqueous phase (i.e. liquid hydrocarbon compounds (LHC)) and is retained in the saturated and unsaturated zones. This report also stated that the LHC in the vicinity of a single monitoring well near the loading rack appears to be present in mobile quantities capable of migrating through the soil above the water table. The report further stated that in other areas, LHC appears to be present at residual saturation and therefore unable to migrate in the non-aqueous phase.

The December 1999, DRAFT WORK PLAN CLOSURE OF BCF OIL REFINING FACILITY prepared by Earth Tech, Inc., for BCF stated that petroleum sheens are present on the water in English Kills. Sheens near the Site may be partially attributable to seepage of petroleum product from the Site as well as from a number of other potential sources adjacent to BCF and English Kills.

EPA received a March 24, 2000, letter from the NYSDEC requesting EPA to perform an appropriate CERCLA/SARA authorized emergency response action at the Site. During a site visit conducted by U.S. Environmental Protection Agency (EPA) on March 29, 2000, EPA observed some staining of the banks of English Kills at the site boundaries and a slight sheen on the water in this same area.

During EPA's second Site visit, conducted on April 4, 2000, EPA observed approximately 65 55-gallon steel drums (55 GSDs) and approximately fifteen 85-gallon steel overpack (salvage) drums. An employee of BCF informed EPA that these drums contain solids, sludge, oil and water from the NYSDEC funded clean-out of the secondary oil/water separator. Some of these drums may have also been generated from the solids discharged by the screen shakers.

At that time, EPA also observed two covered rolloffs with a volume of approximately 15 cubic yards each. An employee of BCF informed EPA that these two rolloffs contain solid waste.

During the second Site visit, EPA observed a vacuum trailer connected to a dilapidated tractor. An employee of BCF informed EPA that the trailer is 50 percent full of a mixture of motor oil and transmission fluid. This BCF employee also informed EPA that he believed a second vacuum trailer observed on-site and a 500 gallon diesel fuel UST located in the northwest area of the Site are empty. However, the second vacuum trailer and diesel fuel UST have not been decontaminated or decommissioned and may contain residual contamination.

During the second site visit, EPA also observed four sea land containers (trans modal containers) present on the Site. These contained in part, five gallon pails of fire foam, empty 55 GSDs, insulation, 55 GSDs with unknown contents, trash and junk.

On May 26, 2000, BCF terminated security and any maintenance interest in the facility after notifying EPA. Because the Site was effectively abandoned, EPA authorized funding for the Site and initiated Site security and control beginning on May 25, 2000.

The Site meets the definition of a facility under Section 101(9) of CERCLA, 42 U.S.C. § 9601(9). There has been a release or threat of release of CERCLA hazardous substances to the environment at the Site.

2. Physical location

The Site is approximately 1.85 acres and is situated on Block 2927, Lot 110, on the north bank of English Kills at 360-362 Maspeth Avenue, in Brooklyn, New York. The facility is bordered on the east by a gasoline and fuel oil distribution terminal, on the north by Maspeth Avenue and then the Brooklyn Union Gas Company, on the west by light manufacturing and industrial supply facilities and on the south by English Kills. English Kills feeds into Newtown Creek which in turn drains into the East River. Although the Site is located in a commercial area, residences are present within a half mile southwest of the Site.

Soil borings performed by RUST encountered an upper fill layer consisting of a variable mixture of fine to medium sand, fine to medium gravel, ash, slag and bricks. Below this fill layer was a zone of sand and clayey, sandy silt. The saturated zone was generally encountered approximately six to eight feet below the ground surface.

3. Site characteristics

Based on historical Sanborn Map Company fire insurance maps, the majority of the Site was created sometime after 1907 by filling an embayment on the shore of English Kills. From around 1933 until 1979 the Site was used as a petroleum distribution terminal, and was operated by Chevron Corp., among others. In approximately 1980, the terminal was modified for use as a waste oil processing facility and was then operated by Calleia Bros,. Inc. and BCF from1980 to 1994.

The Site is completely fenced on three sides of the property. The fourth side is bordered by English Kills, which has steep banks at this location.

The principal features of the facility include:

a) Ten 20,000 gallon heated, steel USTs (nos. 1-10) previously used for oil/water separation and temporary storage, processing and blending of waste materials;

b) One 150,000 gallon heated, steel UST divided into two chambers (tank nos. 15and

16), previously used for heating waste materials and separation of solids and water;

c) Four heated, 110,000 gallon vertical ASTs (nos.11, 12, 14, 17) within a concreted secondary containment dike, previously used for storage of finished product;

d) Oil/water separation tank currently being used for storm water abatement;

e) A loading rack located on Maspeth Avenue for dispensing product to trucks;

f) A two story, masonry structure housing two vibratory screen shakers for filtering solids;

g) Three single-story masonry structures housing offices, a testing laboratory, three steam generating boilers for heating the tanks and storage areas; and

h) A dilapidated wooden dock, approximately 45 foot long, running perpendicular to English Kills banks into the water. Piping runs from the Site to the end of the dock.

The tanks at the facility reportedly range in age from 30 to 70 years, with some installed in the 1930's and several installed in the 1960's and 1970's. In April 1993, a Tracer Tight precision tightness test was reportedly performed on five USTs (tanks 1, 2, 5, 10 & 15) and three ASTs (tanks 11,12 & 14). No tracer was detected in any of the soil gas samples, and all of the tanks passed the Tracer Tight test.

In May of 1997, RUST measured the thickness of the layers and calculated the volumes of the waste materials in the tanks. The measurements obtained were approximate because the interface between some of the layers is gradational. As summarized in Table 1, there are a total of approximately 598,000 gallons of sludge, oil and water in the tanks.

Table 1: Estimated Tank Waste Quantities in Gallons

Tank Number	Total Volume	Total Product	Oil Volume	Aqueous Volume	Sludge Volume
1	20,000	18,392	1,260	11,460	5,672
2	20,000	19,602	8,500	2,300	8,802
3	20,000	19,506	7,260	3,360	8,886
4	20,000	19,771	5,740	1,120	12,911
5	20,000	11,468	8,820	8,532	0
6	20,000	16,961	4,060	380	12,521
7	20,000	14,741	6,820	1,120	6,801
8	20,000	16,961	760	3,760	12,441
9	20,000	18,392	2,060	7,980	8,352
10	20,000	13,011	3,680	9,000	331

11	110,000	86,795	86,795	0	0
12	110,000	83,768	83,768	0	0
14	110,000	72,329	72,329	0	0
15a	20,000	19,082	0	5,680	13,402
15b	20,000	19,102	4,620	0	14,482
15c	20,000	19,202	0	6,440	12,762
15d	20,000	19,182	3,280	3,860	12,042
15e	20,000	17,601	240	3,520	13,841
16a	25,000	17,375	500	2,250	14,625
16b	25,000	17,250	1,500	2,125	13,625
17	110,000	57,190	57,190	0	0
Total	790,000	597,680	359,182	72,887	171,495

Note: *Tanks 15a - 15e are equal subsections and 16a - 16b are equal subsections of the same 100,000 gallon tank.*

The facility had been operating under a NYSDEC Part 360 permit as waste oil reprocessor since August 21, 1992, and was not authorized to handle hazardous waste.

The proposed removal action addressed by this Action Memorandum is the first removal action conducted at the Site.

4. Release or threatened release into the environment of a hazardous substance, or pollutant, or contaminant;

Laboratory analyses of samples collected from the USTs and ASTs revealed the presence of VOCs, semivolatile organic compounds (SVOCs), PCBs, metals and other analytes. A list of the most significant contaminants found in the USTs and the maximum concentration detected is presented below in Table 2. These materials are Comprehensive Environmental Response Compensation and Liability Act (CERCLA) designated Hazardous Substances, as listed in 40 CFR § 302.4.

Table 2: Organic Results for Tank 11 Waste Oil

VOCs

Compound	Concentration (ppm)
Benzene	27
1,2-Dichlorobenzene	11
1,3-Dichlorobenzene	1.9 J
1,4-Dichlorobenzene	5.5 J
Dichlorodifluoromethane	1.3 J
Ethyl Benzene	110 B
Isopropylbenzene	44

Naphthalene	380 BJ
Tetrachloroethene	41
Toluene	270 D
1,2,4-Trichlorobenzene	160 BD
1,1,1,-Trichloroethane	36
Trichloroethene	16
Trichlorofluoromethane	61
0-Xylene	170 D
m&p-Xylene	430 D

SVOCs

Compound	Concentration (ppm)
Acenaphthene	97 J
Anthracene	43 J
Benzo(a)anthracene	24 J
Chrysene	52 J
Bis(2-ethylhexyl)phthalate	120
Fluorene	100
Naphthalene	510
Phenanthrene	310
Pyrene	89 J
1,2,4-Trichlorobenzene	220

PCB - Aroclor 1260

Tank #	April 1995 Analysis Concentration (ppm)	May 1997 Analysis Concentration (ppm)
1	6.7	30
2	92.5	89
3	42.4	340
4	12.8	29
5	109	100
6	28.6	27
7	30.3	43
8	3.29	4.70 U
9	0.50 U	4.80 U
10	1.60 U	4.70 U
11	398	490
12	99.2	80
14	174	290
15	1.32	24
16	3.91	30

17	7.14	4.90 U

Data Qualifiers
U *The compound was analyzed for but not detected at or above the quantitation limit indicated.*
J *The compound was analyzed for and determined to be present in the sample because the mass spectrum of the compound meets the identification criteria of the method. The concentration reported is an estimated value, less than the practical quantitation limit for the sample.*
B *The compound is also found in an associated blank.*
D *The reported value is taken from an analysis of a diluted sample.*

Metals

Compound	Concentration (ppm)
Barium*	28.1
Copper	4.7
Lead	19.6
Zinc	84

*** not a CERCLA listed hazardous substance**

Hazardous substances have been released or are threatened to be released from the USTs and ASTs to the environment. Hazardous substances were detected in groundwater and subsurface soil samples collected near the USTs and ASTs. In May 1998, RUST collected groundwater samples from three monitoring wells. Analysis of the groundwater samples evidenced the following hazardous substances: benzene, ethylbenzene, isopropylbenzene, naphthalene, xylene, toluene. During this same period RUST also collected soil samples from six soil boring locations using a Geoprobe. Analysis of the above soil samples evidenced the following hazardous substances: benzene, ethylbenzene, isopropylbenzene, naphthalene, xylene, toluene, acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd) pyrene, naphthalene, phenanthrene, pyrene and aroclor 1254.

In addition, as a result of the Site's operation as a treatment, storage and disposal facility, and the presence of regulated hazardous waste and other hazardous substances at the Site for at least six years, if not longer, and BCF's failure to dispose of such hazardous wastes and hazardous substances, there has been an abandonment and/or disposal at the Site within the meanings of the Resource Conservation and Recovery Act (RCRA) and CERCLA. See Sections 101(22) and (29) of CERCLA, 42 U.S.C. § 9601(22) and (29), Section 1004(3) of RCRA, 42 U.S.C. § 6903(3), and 40 CFR § 261.2. As a result of this abandonment and/or disposal, there has been a release, as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

5. NPL status

The Site is not on the NPL.

6. Maps, pictures and other graphic representations

Please refer to Attachment 1, Figures 1 and 2 for site location and site layout.

B. Other Actions to Date

1. Previous actions

On April 18, 1991, NYSDEC and BCF entered into a Consent Decree which directed BCF to pay a total of $50,000 in penalties, to diligently further its NYSDEC Part 360 permit application, complete its MOSF permit application and comply with its SPDES permit.

Seven monitoring wells were installed prior to 1993 as a condition of the Facility's MOSF License.

On March 3, 1994, a Consent Decree between EPA and BCF was lodged with the federal District Court, Eastern District of New York, directing BCF to pay $100,000 in civil penalties and to follow specific procedures regarding plant operations and testing of the waste materials prior to acceptance into the facility and of the finished product prior to sale.

On August 19, 1994, NYSDEC initiated an emergency cleanup at the Site in order to prevent flooding of the facility and subsequent release and migration of contamination from the USTs and storm water abatement system. NYSDEC's contractor removed oil and sludge from the storm water oil-water separator and the separator was cleaned. The oil and sludge resulting from this cleanup is being stored in drums on-site. Storm water drainage was diverted to the cleaned oil/water separator and is discharged into English Kills, bypassing the industrial waste water treatment system.

RUST was contracted by BCF to conduct sampling and analysis of various media at the Site and subsequently prepared the following reports: Analysis of Contaminated Oil B.C.F. Oil Refinery, Brooklyn, New York dated August 1996, Preliminary Subsurface Investigation B.C.F. Oil Refining Facility dated June 1998, and Project Scoping Plan Restoration of B.C.F. Oil Refining Facility dated August 1998.

EPA received a March 24, 2000, letter from the NYSDEC requesting EPA to perform an appropriate CERCLA/SARA authorized emergency response action at the Site.

On May 19, 2000, the EPA Acting Director of the Emergency and Remedial Response Division granted verbal authorization to conduct a removal action at the Site.

EPA initiated site security on May 25, 2000, in response to a letter from BCF's legal counsel stating that site security would be terminated by BCF on May 26, 2000.

2. Current actions

EPA is providing site security and control. The AST and UST fire suppression system was tested on June 21, 2000.

C. State and Local Authorities' Roles

1. State and local actions to date

In addition to State actions described in Section II.B.1., NYSDEC has monitored and reacted to violations of BCF's various permits.

NYSDEC refused to renew BCF's MOSF license by letter dated April 25, 1995, based upon the contamination of the facility. In that letter NYSDEC references BCF's claim that it did not have the funds to pay for the clean-up.

BCF had proposed to finance the clean-up of the facility by allowing it to restart the operation of the Site, using the income to finance the removal of the wastes and the upgrade of the facility. Various reports regarding this option were submitted in early 1999. Negotiations continued through the early summer, when issues arose over the Toxic Substances Control Act (TSCA) "contact rule", regarding the classification of the wastes for disposal and whether the underground tanks could be closed in place and new tanks constructed on top of them. On December 9, 1999, NYSDEC advised BCF in writing regarding the permits which would be required as well as the removal, investigative and remedial activities that must occur before operations could start up again.

On December 13, 1999, BCF advised NYSDEC that it no longer wanted to restart site operations, but rather wanted to remove all on-site wastes, clean and sell the Site. Subsequently, negotiation of a consent order occurred, and a draft work plan addressing closure activities was submitted to the NYSDEC on or about December 31, 1999. After further negotiations were unsuccessful, NYSDEC referred the Site to EPA on March 24, 2000.

2. Potential for continued State/local response

It is presently anticipated that upon completion of the proposed removal activities, the Site will be referred back to the State of New York. NYSDEC may conduct additional investigations to determine the impacts of the release of contaminants from the Site to the environment.

III. THREATS TO PUBLIC HEALTH, OR WELFARE, OR THE ENVIRONMENT AND STATUTORY AND REGULATORY AUTHORITIES

The release or threatened release of hazardous substances from the Site pose a threat to the public health, welfare and the environment. Conditions at the Site meet the requirements of Section

300.415(b) of the NCP for undertaking a CERCLA removal action. Factors from NCP Section 300.415(b)(2) that support conducting a removal action at the Site include:

(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, or pollutants, or contaminants;

There is approximately 600,000 gallons of waste oil, sludge and water stored in ASTs, USTs, rolloffs, tank trailers and drums on Site. These materials are largely contaminated with PCBs and other hazardous substances. Due to the age and physical condition of these tanks, there is a potential hazard that one or more of the tanks will fail and the contaminated waste oil will be released into the environment. The drums containing oil, sludge and water from the NYSDEC clean out of the oil-water separator have never been analyzed and may be contaminated by PCBs. These drums have been sitting outside exposed to the elements since they were generated in August 1994. These drums could potentially begin leaking at any time and due to corrosion and could release their contents if physically disturbed. Hazardous substances released from USTs could migrate off-site and impact groundwater and/or surface waters, substantially increasing the cost of the required cleanup. English Kills flows into Newtown Creek, which in turn flows into the East River. A release of hazardous substances from one or more of the USTs, which are located less than 100 feet from English Kills, could migrate into and through the above waterways, impacting animals or the food chain. In addition, the Site is bordered on the east by a gasoline and fuel oil distribution terminal, on the north by Maspeth Avenue and then the Brooklyn Union Gas Company, on the west by light manufacturing and industrial supply facilities and on the south by English Kills. Although the Site is located in a commercial area, residences are present within a half mile southwest of the Site. A catastrophic release could potentially expose nearby workers, residents or emergency response personnel to the hazardous substances present at the Site.

(ii) Hazardous substances, or pollutants, or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;

There is approximately 600,000 gallons of waste oil, sludge and water on Site. These materials, largely contaminated with PCBs, are stored in ASTs, USTs, rolloffs, tank trailers and drums. The tanks at the facility range in age from approximately 30 to 70 years. Due to the age and physical condition of these tanks, there is potential hazard that one or more or the tanks will fail and the contaminated waste oil will be released into the environment. There are approximately twelve USTs of varying age, some of which were installed in the 1930's. The structural integrity of these tanks is unknown. Un-lined tanks of this age together with the absence of maintenance and monitoring presents a high risk of leaking or otherwise releasing their contents into the environment. In addition, there are four ASTs which contain the largest volume of contaminated oil with some of the higher concentrations of PCBs. All of these tanks have patches of rust on them. The condition of the ASTs will only worsen with time as they are not protected from the elements. The tanks and connecting pipes have not been painted, cleaned or otherwise maintained since the plant closed. Since most of the tanks are interconnected, a failure in one tank or line may lead to a release of contaminated material from one or more additional tanks or lines. NYSDEC has reported that the secondary containment for the ASTs do not meet their regulatory requirements. Moreover, there are cracks in the secondary containment walls and the concrete floor of the containment area is incomplete. Therefore, the secondary containment area would not sufficiently contain a release from the ASTs. The drums containing oil, sludge and water from the NYSDEC clean out of the oil-water separator have never been analyzed and may be contaminated with PCBs and other hazardous substances. These drums have been sitting outside exposed to the elements since they were generated in August 1994. These drums could potentially begin leaking at any time and due to corrosion and could release their contents if physically disturbed. Hazardous substances released from the USTs could migrate off-site and impact groundwater and/or surface waters, substantially increasing the cost of the required cleanup. A release of hazardous substances could migrate into English Kills, which borders the southern edge of the Site less than 100 feet from the ASTs.

(iii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

English Kills, which borders the southern Site boundary, flows into Newtown Creek which in turn flows into the East River. Approximately 300,000 gallons of waste oil, sludge and water contaminated with PCBs and other hazardous substances are presently stored in the four ASTs. The specific age of these tanks is unknown at this time, but the tanks at the facility range in age from 30 to 70 years. All of these tanks have patches of rust on them and this condition will only worsen with time as they are outdoors without protection from the elements. Due to the age and physical condition of these tanks, there is potential hazard that one or more or the tanks will fail and the PCB-contaminated waste oil will be released into the environment. The NYSDEC has reported that the secondary containment for the ASTs do not meet the regulatory requirements. Moreover, there are cracks in the secondary containment walls and the concrete floor of the containment area is incomplete. A release of hazardous substances from one or more of the USTs, which are located less than 100 feet from English Kills, could migrate into and through the above waterways, impacting sensitive ecosystems.

(iv) Weather conditions that may cause hazardous substances, or pollutants, or contaminants to migrate or be released; and

Floating product on the groundwater and analytical results indicate that the site groundwater and soils are contaminated. Water in the form of precipitation percolating through the contaminated soil may cause the contaminants to migrate through the soil and discharge into English Kills through the earth/stone wall which borders the southern side of the Site.

Groundwater flow is influenced by a number of factors, including the presence of sewers, buried gas pipelines and tidal fluctuation of Newtown Creek. The water table beneath the Site is expected to fluctuate erratically under the tidal influence of Newtown Creek. The single round of groundwater elevation measurements conducted during RUST's investigation suggests a temporal gradient toward Maspeth Avenue and English Kills. This gradient may lessen or even reverse direction during low tide or certain seasonal conditions. Percolation of precipitation may cause the contaminants to mobilize and migrate into the groundwater. The precipitation water in synergy with the tidal fluctuations of English Kills may cause the contaminated groundwater to be released to English Kills and to otherwise migrate.

(v) The availability of other appropriate federal or State response mechanisms to respond to the release.

No other government entity can address the Site within an appropriate time-frame. In a March 24, 2000 letter, NYSDEC requested that EPA undertake a removal action at the Site.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. EXEMPTION FROM STATUTORY LIMITS

Conditions at the Site and the proposed actions meet the criteria for an emergency exemption as specified in CERCA Section 104 (c). There are immediate risks to public health and the environment and continued actions are immediately required to prevent limit or mitigate an emergency. Neither the State, county or local government can address the Site within an appropriate time-frame.

A. Emergency Exemption

1. There is an immediate risk to public health, or welfare, or the environment.

A potential release of hazardous substances from USTs, ASTs, drums, rolloffs and tank trucks is at the Site. Approximately 600,000 gallons of PCB contaminated materials are present at the Site. Other CERCLA hazardous substances including benzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, dichlorodifluoromethane, ethyl benzene, isopropylbenzene, tetrachloroethene, toluene, 1,2,4-trichlorobenzene, 1,1,1,-trichloroethane, trichloroethene, trichlorofluoromethane, o-xylene, m&p-xylene, 1,2,4-trichlorobenzene, copper, lead and zinc are present in at least one AST on-site. The USTs, ASTs and affiliated piping have not been maintained or tested since the facility closed in 1994. Moreover, the secondary containment for the ASTs contains cracks in the concrete walls and the concrete floor is incomplete. A release from any of these tanks would certainly migrate into the soil and potentially into the groundwater and could potentially be released into English Kills. The USTs may already be leaking contaminated materials into the soils, groundwater and through surface discharge into English Kills. The drums on Site have been filled with waste materials for approximately six years.

These drums were not protected from the elements and could catastrophically fail and release the contained material.

2. Continued response actions are immediately required to prevent, limit, or mitigate an emergency.

There is an imminent threat of a release of material from the USTs, ASTs, drums, rolloffs and tank trucks and a threat of hazardous substances subsequently migrating into the environment. If immediate action is not taken to remove the contents of the USTs, ASTs, drums, rolloffs and tank trucks hazardous material could be released into the environment increasing the cost of the required cleanup. Released hazardous substances could migrate to groundwater and surface water, damage natural resources and threaten the health of local workers and residents.

3. Assistance will not otherwise be provided on a timely basis.

Addressing the immediate threats to public health and the environment from the release or threat of release of hazardous substances from the Site will not be provided on a timely basis. Neither State nor local government is able to remove the hazardous substances from the Site in a timely fashion.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed action

1. Proposed action description

A CERCLA removal action continues to be warranted at this time. A ceiling increase and an exemption from the $2 Million and 12-month Statutory Limits are necessary to conduct the following tasks at the Site:

1. Continue providing 24-hour site control, maintenance and security as is currently being conducted;

2. Install and maintain a containment boom along the entire length of the southern property lines at the shoreline of English Kills;

3. Sample all ASTs, USTs, roll-off containers, tank truck contents, and 55- gallon drums to characterize the materials for disposal;

4. Remove all materials contained in the ASTs and USTs and appropriately treat/dispose of all materials off-site;

5. Empty, decontaminate and remove all surface and subsurface piping, valves and

other appurtenances related to the ASTs and USTs (including the loading rack along Maspeth Avenue and the pipes on the dock extending into English Kills) and appropriately treat/dispose of same off-site;

6. Demolish all ASTs and appropriately treat/dispose of same;

7. Excavate, remove and demolish all USTs and appropriately treat/dispose of same. Conduct post-excavation sampling and analysis of soil, excavate and treat/dispose of all visually contaminated soils;

8. Conduct grid sampling of surface and subsurface site soils. All samples will be analyzed for TAL, Polyaromatic Hydrocarbons and PCBs. Excavate soils exceeding the cleanup criteria and treat/dispose of contaminated soils off-site;

9. Install silt fencing and other temporary barriers in conjunction with excavation operations to reduce contaminant migration via surface water runoff;

10. Backfill excavated areas to an appropriate grade with clean fill verified as such based on TAL and TCL analysis and meeting appropriate NYSDEC levels;

11. Vegetate affected areas with grass;

12. Appropriately treat/dispose of all 55-gallon and overpack (85-gallon salvage) drums off-site;

13. Appropriately treat/dispose of the material in the two roll-off containers and the two vacuum trailers off-site. Decontaminate the above roll-off containers and vacuum trailers;

14. Remove and appropriately treat/dispose of all debris, oils, sludges and drums in the screen house. Decontaminate and/or appropriately treat/dispose of all equipment in the screen house;

15. Demolish the screen house and appropriately treat/dispose of the resulting debris; and

16. Redevelop and sample all existing ground water monitoring wells. All samples will be analyzed for TAL and TCL parameters.

2. Contribution to remedial performance

The removal action at the Site is consistent with the requirement of Section 104(a)(2) of CERCLA, which states, "any removal action undertaken...should...to the extent practicable, contribute to the efficient performance of any long-term remedial action with respect to the release or the threatened release concerned." Any remedial action undertaken would encompass the elements in this response, this removal action is consistent with any future remedial work.

3. Description of alternative technologies

Because of the quantities and types of the hazardous substances and/or wastes at the Site, on-site treatment and/or incineration is not appropriate. The selected removal action includes the characterization of the hazardous substances found at the Site and the transportation of these sources off-site for treatment and/or disposal. The selected removal action has been determined to be the appropriate response action for the Site based upon the criteria of effectiveness, implementability and cost.

4. Engineering Evaluation/Cost Analysis (EE/CA)

Due to the time-critical nature of this removal action, an EE/CA will not be prepared.

5. Applicable or relevant and appropriate requirements (ARARs)

ARARs that are within the scope of this removal action, which pertain to the cleanup and disposal of hazardous waste, will be identified and addressed to the extent possible. Federal ARARs determined to be applicable this removal action are RCRA and TSCA.

6. Project schedule

Approval of funding will initially be used to provide Site security and control while EPA pursues the potential to enter into an order with potential responsible parties (PRPs) to conduct the removal action. If an order cannot be signed with a private party then, with EPA funding, approximately ten months will be required to complete the work described in this memorandum.

B. Estimated Costs

	Current Ceiling	Additional Funds Requested	Proposed Ceiling
Extramural Costs			
Regional Allowance Costs:			
ERRS Contractor Costs Includes Contingency	$ 95,000	$4,030,392	$4,125,392
Other Extramural Costs Not Funded From the Regional Allowance:			
U.S. Coast Guard	$ 0	$ 70,800	$ 70,800

START Costs	$ 15,000	$ 187,296	$ 202,296
Total Extramural Costs	$110,000	$4,288,488	$4,398,488
Intramural Costs			
Intramural Indirect Costs	$ 5,000	$ 548,496	$ 553,496
Total Intramural Costs	$ 5,000	$ 548,496	$ 553,496
TOTAL PROJECT CEILING	**$115,000**	**$4,836,984**	**$4,951,984**
TOTAL ROUNDED	**$115,000**	**$4,837,000**	**$4,952,000**

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action will increase the risk to public health and the environment from the potential release of hazardous substances from ASTs, USTs, drums, rolloffs or tank trailers to the environment. Since the USTs have not been maintained or tested in approximately six years, the USTs could already be leaking and discharging hazardous substances to the environment including English Kills.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

A combined notice/information request letter was sent to BCF and its President on April 28, 2000. On May 23, 2000, 49 combined notice/information request letters were also sent to transporters who brought waste to the Site.

IX. RECOMMENDATION

This decision document represents the selected removal action for the BCF Oil Refining Site located at 360-362 Maspeth Avenue Brooklyn, New York, developed in accordance with CERCLA, as amended, and not inconsistent with the NCP. This decision is based on the administrative record for the Site.

Conditions at the Site meet the NCP section 300.415(b)(2) criteria for a removal action and the CERCLA Section 104(c) criteria for an emergency exemption from the $2 million and 12-month limitations. I recommend your approval of the proposed action and the proposed ceiling increase of $4,837,000. The total project ceiling if approved will be $4,952,000 of which an estimated $4,125,392 is for mitigation contracting.

Enforcement efforts are proceeding and one or more interested parties and/or PRPs may sign a consent order with the EPA. EPA will therefore continue negotiations with the above parties prior to commencing the entire scope of work outlined in this document. In the meantime, funds will be required to conduct security, Site control and sampling of on-site wastes. Contingent upon the approval of this memorandum, an additional $233,000 will be obligated from this year's advice of allowance for mitigation contracting to conduct this work.

Sufficient funding is available in the current Advise of Allowance to finance this project.

Please indicate your approval and authorization of funding for the BCF Oil Refining Site, as per current Delegation of Authority, by signing below.

Approval: ______________________ **Date:** 7/3/02
Jeanne M.. Fox
Regional Administrator

Disapproval: ______________________ **Date:** ________________
Jeanne M. Fox
Regional Administrator

cc: (after approval)
W. Muszynski, DRA
R. Caspe, ERRD-D
R. Salkie, ERRD-RAB
J. Witkowski, ERRD-RAB
B. Dease, ERRD-RAB
B. Bellow, CD
P. Simon, ORC-NYCSUP
B. Carr, ORC-NYCSUP
R. Gherardi, OPM-FIN
K. Weaver, OPM-FIN
C. Moyik, ERRD-PS
T. Johnson, 5202G
M. O'Toole, NYSDEC
D. Koehling, NYSDEC
R. Gardineer, NYSDEC
P. McKechnie, IG
A. Raddant, DOI
G. Wheaton, NOAA
O. Douglas, START
G. Barbara, NYCFD

ATTACHMENT 1

BCF 2.5 0022

Map Reference
NYSDOT 7.5 minute series
Brooklyn Quadrongle, Rev. 1975

Figure 1 – Location Map

B.C.F. OIL REFINING FACILITY
360 MASPETH AVENUE
BROOKLYN, NEW YORK 11211

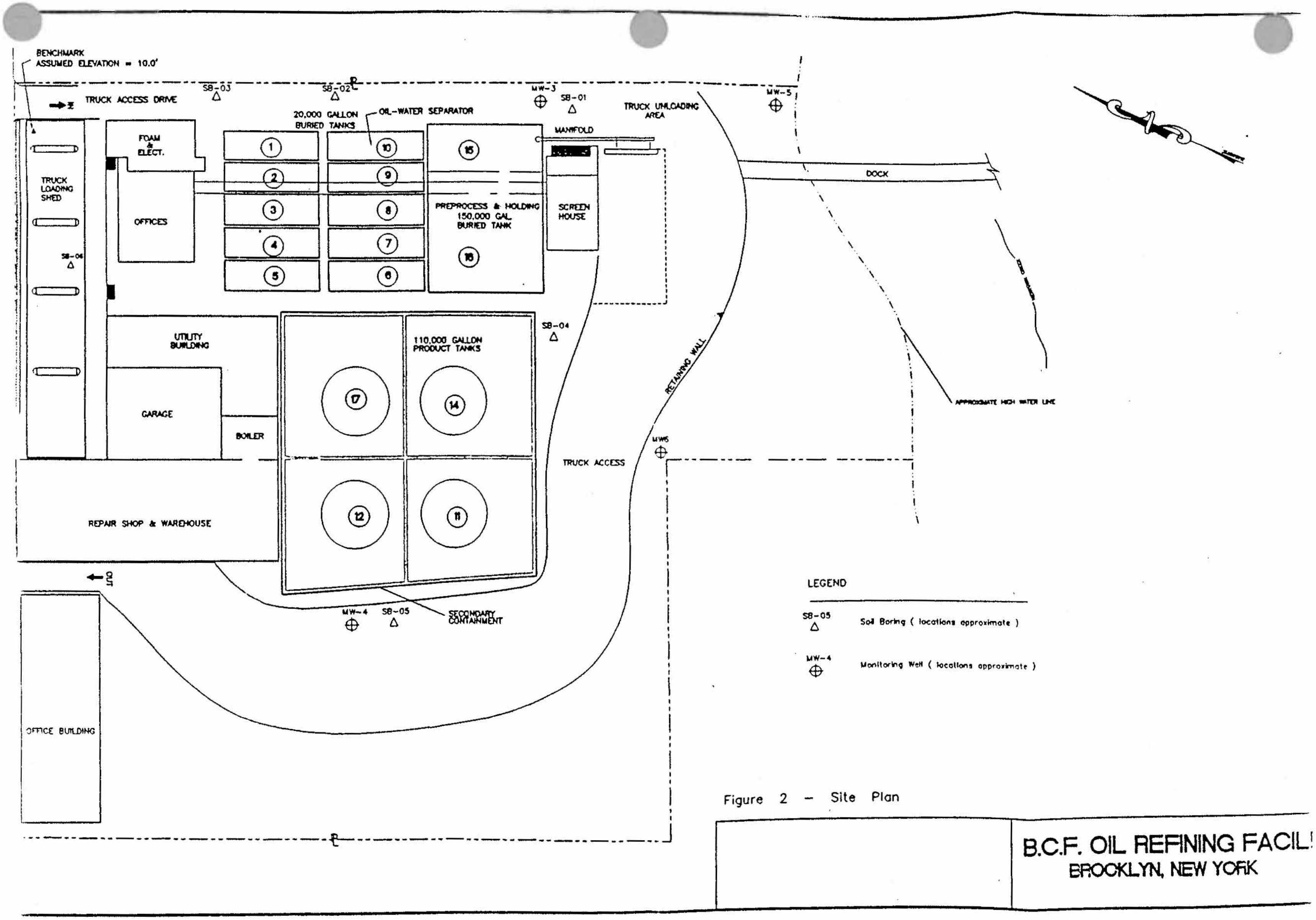

Figure 2 – Site Plan

B.C.F. OIL REFINING FACIL
BROOKLYN, NEW YORK

BCF 2.5 0023

LAW OFFICES
STILLMAN & FRIEDMAN, P.C.
425 PARK AVENUE
NEW YORK, N.Y. 10022

CHARLES A. STILLMAN
JULIAN W. FRIEDMAN
PAUL SHECHTMAN
PETER A. CHAVKIN
SCOTT M. HIMES
MARJORIE J. PEERCE
JOHN B. HARRIS
JAMES A. MITCHELL
MICHAEL J. GRUDBERG

PETER S. DOLOTTA
SARA BETH SAVAGE
LAUREN GOLDBERG
NATHANIEL Z. MARMUR
SEAN T. HARAN
JODY L. SING
SAMANTHA J. LEVENTHAL

TELEPHONE
[illegible]
TELECOPIER
[illegible]

BY TELECOPIER &
CERTIFIED MAIL

March 14, 2000

Charles E. Sullivan, Jr., Esq.
New York State Department
of Environmental Conservation
Division of Environmental Enforcement
50 Wolf Road
Room 627
Albany, NY 12233-5500

MaryEllen Kris, Esq.
Department of Environmental Conservation
47-40 21st Street
Long Island City, New York 11101

Re B.C.F. Oil Refining, Inc. 360 Maspeth Avenue, Brooklyn, NY 11211

Dear Charlie and Mary Ellen:

Since I have not heard any response from you to the proposal which I made during my March 6 telephone conversation with Charlie, my client, B.C.F. Oil Refining, Inc. is left with no alternative but to discontinue its practice during the last five and a half years of providing security services at the facility located at 360 Maspeth Avenue, Brooklyn, New York.

As you know, the shareholders of B.C.F. have been lending funds to the company during this period in order to enable B.C.F. to pay the costs required to secure the property. They were willing to advance these funds in the belief that we would be able to reach agreement quantifying the cost of remediating the premises. The hope that such an agreement could be reached became problematic because of D.E.C.'s failure to respond to B.C.F.'s proposals over long periods of time in the last five years, but the B.C.F. shareholders kept hoping that a plan could be worked out. To that end, they were willing to lend substantially in excess of a million dollars to the company to enable it to continue to meet its financial obligations while the negotiations were going on.

LAW OFFICES
STILLMAN & FRIEDMAN, P.C.

Now, however, so much time has passed and the positions taken by D.E.C. have been so unyielding that my clients have concluded that the agency never really intended to enter into any agreement pursuant to which B.C.F. would be permitted to go back into business. While I am distressed in having to reach this conclusion, I think it is the only explanation for the manner in which certain D.E.C. staff people have responded – and failed to respond – to every proposal which B.C.F. made in the last five years.

The purpose of this letter is to put you on notice that effective at the close of business on Friday, March 17, 2000, the existing watchman/security guard arrangements at the B.C.F. premises will be terminated. Please be further advised B.C.F. has secured the premises to the extent reasonably possible and posted "No Trespassing" signs in prominent places. Please let me know promptly where I should deliver the keys to the premises so that D.E.C. can take over the management of the facility in a safe and orderly manner.

Very truly yours,

Julian W. Friedman

JWF:cn

cc: United States Environmental Protection Agency (by fax & certified mail)
United States Coast Guard (by fax & certified mail)
Julian Bazel, Esq. (by fax & certified mail)

New York State Department of Environmental Conservation
Division of Environmental Enforcement, Room 627
50 Wolf Road, Albany, New York 12233-5500
Phone: (518) 457-4348 • FAX: (518) 485-8478
Website: www.dec.state.ny.us

BCF 7.7 0003

copy ... Dick Joe R. Margaret Jim

30 YEARS
John P. Cahill
Commissioner

March 24, 2000

U.S. EPA, REGION II
EMER. & REM. RES. DIV.
2000 MAR 27 PM 3: 13
DIRECTOR'S OFFICE

VIA FAX AND REGULAR MAIL

Julian W. Friedman, Esq.
Stillman & Friedman, P.C.
425 Park Avenue
New York, New York 10022

Re: BCF Oil Refining, Inc.

Dear Julian:

This serves to reply to your letter to MaryEllen Kris and me dated March 14, 2000.

I am surprised and disappointed by your client's apparent decision to abandon negotiations that were on the verge of succeeding in getting the property at 360 Maspeth Avenue in Brooklyn investigated and remediated. Of course, your client remains responsible for the property's cleanup and for reimbursing the State for the expenditures it already has made in trying to commit your client to undertake its legal obligations.

At this point, and as I informed you during this morning's telephone call, the Department will refer this matter to the United States government for it to undertake an emergency removal action to empty the tanks and perform other tasks. You informed me during that call that your client would maintain site security until the federal government began its removal operations. We discussed delivery of the keys to the premises; and I informed you that I would call you back with the name of the federal official in charge of the project to whom those keys could be delivered once I receive word of that individual's identity. Since then, I have been informed that the federal official will contact you directly.

In any event, the transfer of the keys, of course, has no legal significance either to the State or to the federal government, other than to demonstrate your client's consent to access to your client's property for response action purposes; and the Department's referral of the matter to the federal government in no way waives any rights the State may have in this matter *vis-à-vis* your client.

Sincerely,

Charlie

Charles E. Sullivan, Jr.
Director

NEW YORK STATE CENSUS 2000
BE PART OF THE COUNT

TOTAL P.02

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

290 BROADWAY

NEW YORK, NEW YORK 10007-1866

March 29, 2000

VIA FAX AND FIRST CLASS MAIL

Julian W. Friedman, Esq.
Stillman & Friedman, P.C.
425 Park Avenue
New York, NY 10022

Re: BCF Oil Refining, Inc. Site,
360 Maspeth Avenue, Brooklyn, NY

Dear Mr. Friedman:

This is to confirm our telephone conversation of yesterday. You indicated that your client BCF Oil Refining, Inc., will, until further notice, maintain the same site security that has been in place at the above-referenced site for the last several years.

If in the future, there should be any change in your client's intentions with respect to the site security issue, it is essential that you immediately notify the undersigned as well as:

Richard Salkie, Chief
Removal Action Branch
Emergency and Remedial Response Division
U.S. Environmental Protection Agency
Region 2
2890 Woodbridge Avenue
Edison, NJ 08837-3679
Phone: 732-321-6658
Fax: 732-906-6182

Such notification should be made both by telephone and overnight mail (or other expedited delivery), and should be provided at least one week prior to implementing the change in site security. Such notification is in addition to whatever notification is otherwise required under federal, state and local law.

If you need to get in touch with me, my phone number is 212-637-3152, and my fax number is 212-637-3104.

Sincerely yours,

Paul F. Simon, Chief
New York/Caribbean Superfund Branch
Office of Regional Counsel

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

290 BROADWAY

NEW YORK, NEW YORK 10007-1866

APR 2 8 2000

VIA CERTIFIED MAIL--
RETURN RECEIPT REQUESTED

Mr. Salvatore Cortese
President
BCF Oil Refining, Inc.
604 Kerryville Road
Hancock, NY 13783

Re: BCF Oil Refining, Inc. Site,
360-362 Maspeth Avenue, Brooklyn, NY

Dear Mr. Cortese:

The U.S. Environmental Protection Agency ("EPA") is charged with responding to the release or threatened release of hazardous substances, pollutants and contaminants into the environment and with enforcement responsibilities under the Comprehensive Environmental Response, Compensation, and Liability Act, as amended ("CERCLA"), 42 U.S.C. §§ 9601-9675 (also known as the "Superfund" law).

EPA has documented the release or threatened release of hazardous substances into the environment at the BCF Oil Refining, Inc. Site, located at 360-362 Maspeth Avenue, Brooklyn, NY (hereinafter, the "Site"). In response to the release or threat of release of hazardous substances at the Site, EPA has spent public funds and anticipates spending additional public funds pursuant to CERCLA.

Notice of Potential Liability

Under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), responsible parties may be held liable for all costs expended by the federal government in taking response actions at and around sites where hazardous substances have been released or are threatened to be released, including investigative, planning, removal, remedial, and enforcement actions. Responsible parties also may be subject to orders requiring them to take response actions themselves. Responsible parties under CERCLA include, among others, the current and past owners or operators of a facility from which there has been a release or threatened release of a hazardous substance, persons who transported hazardous substances to the facility, and those that generated the hazardous substances that were sent to the facility.

By this letter, we notify you that we have reason to believe that BCF Oil Refining, Inc. ("BCF") may be held liable under Section 107(a) of CERCLA as a current owner and operator of the Site, and as an owner and operator of the Site at a time of disposal of hazardous substances. We also notify you that we have reason to believe that Mr. Salvatore Cortese, individually, may be held liable under Section 107(a) of CERCLA as a current operator of the Site and as an operator of the Site at a time of disposal of hazardous substances. We thus consider BCF and Mr. Cortese to be potentially responsible parties ("PRPs") under CERCLA with regard to the Site.

As EPA has informed your legal counsel and environmental consultant, we believe that a "removal" action (as defined in Section 101(23) of CERCLA, 42 U.S.C. § 9601(23)) is necessary at the Site. We currently expect that this removal action will involve sampling, analysis and removal of contaminated materials and media from the Site. As you know, EPA is in the midst of discussions with your legal counsel regarding the possibility of BCF and its principals performing the removal action at the Site. The commitment of BCF and its principals to perform the removal action would need to be memorialized in an administrative order on consent ("AOC") under Section 106(a) of CERCLA, 42 U.S.C. § 9606(a), before the commencement of the cleanup. If we do not enter into an AOC, EPA might issue a unilateral administrative order to the PRPs, requiring their performance of the cleanup, and/or EPA might itself perform the cleanup (the costs of which the PRPs may be liable for under Section 107(a) of CERCLA).

<u>Request for Information</u>

This letter also seeks your cooperation in providing certain information and documents to EPA. A complete and truthful response to the attached Request for Information should be provided to EPA within 21 days of your receipt of this letter.

Under Section 104(e) of CERCLA, EPA has broad information-gathering authority which allows EPA to require persons to provide information or documents relating to the materials generated, treated, stored or disposed of at or transported to a facility, the nature or extent of a release or threatened release of a hazardous substance, pollutant or contaminant at or from a facility, and the ability of a person to pay for or perform a cleanup.

While EPA seeks your cooperation in this investigation, your compliance with the attached Request for Information is required by law. When you have prepared your response to the Request for Information, please sign and have notarized the enclosed "Certification of Answers to Request for Information," and return that Certification to EPA along with your response. Please note that false, fictitious or fraudulent statements or representations may subject you to civil or criminal penalties under federal law. In addition, Section 104 of CERCLA, 42 U.S.C. § 9604, authorizes EPA to pursue penalties for failure to comply with requests for information.

Some of the information EPA is requesting may be considered by you to be confidential business information. Please be aware that you may not withhold the information on that basis. If you wish EPA to treat all or part of the information confidentially, you must advise EPA of that fact by following the procedures described in the Instructions included in the attached information request, including the requirement of supporting your claim of confidentiality.

Please note that if after submitting your response you obtain additional or different information concerning the matters addressed by our information request, it is necessary that you promptly notify EPA.

This Request for Information is not subject to the approval requirements of the Paperwork Reduction Act of 1980, 44 U.S.C. Sections 3501-3520.

Your response to this Request for Information should be mailed to:

Thomas Budroe
Removal Action Branch
Emergency and Remedial Response Division
U.S. Environmental Protection Agency
2890 Woodbridge Avenue
Edison, NJ 08837-3679

and

Paul F. Simon, Chief
New York/Caribbean Superfund Branch
Office of Regional Counsel
U.S. Environmental Protection Agency
290 Broadway, 17th Floor
New York, NY 10007-1866

Notification of Intent to File Superfund Lien

Finally, EPA wishes to notify you of its intent to perfect a lien on the Site. Please be advised that, by operation of Section 107(*l*) of CERCLA, 42 U.S.C. § 9607(*l*), the costs which are incurred by the United States for which BCF is liable under Section 107(a) of CERCLA constitute a lien in favor of the United States upon all real property and rights to such property which belong to BCF and are subject to or affected by a remedial or removal action. It is EPA's understanding that BCF is the current owner of the Site. EPA has already commenced "removal" activities in evaluating the release and threat of release of hazardous substances at and from the Site and in taking other actions under CERCLA, and we expect that the Site will be the subject of further removal activities by EPA.

The United States intends to perfect its lien on all parcels comprising the Site, and on BCF's rights to such parcels, by filing a Notice of Federal Lien in the appropriate property records office in Kings County, New York. This lien arising in favor of the United States shall continue until BCF's liability for the United States' response costs is satisfied or becomes unenforceable through operation of the statute of limitations set forth in Section 113(g) of CERCLA, 42 U.S.C. § 9613(g).

EPA has assembled a Lien Filing Record consisting of documents relating to its decision to perfect its lien. This Lien Filing Record includes documents supporting EPA's lien on the Site. This record is kept at the following address, and may be reviewed and copied at reasonable times by arrangement with:

Paul F. Simon, Chief
New York/Caribbean Superfund Branch
Office of Regional Counsel
U.S. Environmental Protection Agency
290 Broadway, 17th Floor
New York, NY 10007-1866
telephone: 212-637-3152

EPA has reviewed the information in the Lien Filing Record and believes that the Agency has a reasonable basis to conclude that the statutory elements for perfecting a lien are satisfied. BCF may notify EPA in writing, together with all supporting documentation, within fourteen (14) days from the date of your receipt of this letter if BCF believes that EPA's information or determination is in error. Within the same time period, BCF may also send a written request to appear before a neutral EPA official to present any information you have which indicates that EPA does not have a reasonable basis to perfect its lien. A written submission and/or a request for a conference should describe any reasons for believing that EPA does not have a reasonable basis to perfect its lien pursuant to Section 107(*l*) of CERCLA, and should be sent to Paul Simon, at the address set forth above.

If EPA disagrees with your conclusion that the Agency does not have a reasonable basis upon which to perfect its lien, as set forth in your written submission and/or request for a conference, the written submission and/or request will be referred to a neutral EPA official selected for the purpose of reviewing the submission or conducting the conference.

If BCF requests a conference, it shall be held within ten (10) days of the request at EPA's offices in New York City.[1] Such a conference will not be an evidentiary hearing or constitute a proceeding for a legally binding determination of BCF's liability for the response costs incurred by the United States in connection with the Site. No official stenographic record of the conference will be made, and the conference will not be conducted using rules of evidence or formal administrative procedures. The sole issue to be addressed at the conference, if held, would be whether EPA has a reasonable basis to perfect any lien under Section 107(*l*) of CERCLA with regard to the Site. If you wish, you may be represented by counsel at this conference.

After reviewing BCF's written submissions or conducting a conference if one is requested, the neutral EPA official will issue a recommended decision based on the Lien Filing Record. The recommended decision will state whether EPA has a reasonable basis to perfect the lien and will be forwarded to the Agency official delegated to execute liens for action. BCF will be notified of the Agency's action (whether perfection of the lien or a decision not to perfect) and furnished with a copy of the recommended decision.

If BCF does not make a timely written submission or timely request for a conference as provided by this notice, EPA may file the Notice of Lien in the appropriate office in Kings County, New

---

[1] If you would prefer, the conference could be conducted by telephone.

York any time thereafter without further notice to you.

Neither EPA nor BCF waives or is prohibited from asserting any claims or defenses in subsequent legal or administrative proceedings by the submission of information concerning the lien, by a request for and participation in a conference, or by a recommended decision by the neutral EPA official as to whether or not the United States has a reasonable basis to perfect its lien.

If you have any questions pertaining to the matters referred to in this letter, or would like to discuss any of the above issues, you or your counsel may call Paul Simon of EPA's Office of Regional Counsel at (212) 637-3152.

We appreciate your attention to this matter.

Sincerely yours,

John S Frisco

for Richard L. Caspe, P.E., Director
Emergency and Remedial Response Division

Enclosure

cc: (via fax and first class mail)
Julian W. Friedman, Esq.
Stillman & Friedman, P.C.
425 Park Avenue
New York, NY 10022

INSTRUCTIONS FOR RESPONDING TO REQUEST FOR INFORMATION

A. Directions

1. A complete and separate response should be given for each question.

2. Identify each answer with the number of the question to which it is addressed.

3. For each document produced in response to this Request for Information, indicate on the document, or in some other reasonable manner, the question to which it applies.

4. In preparing your response to each question, consult with all present and former employees and agents of your company whom you have reason to believe may be familiar with the matter to which the question pertains.

5. In answering each question, identify each individual and any other source of information (including documents) that was consulted in the preparation of the response to the question.

6. If you are unable to give a detailed and complete answer, or to provide any of the information or documents requested, indicate the reason for your inability to do so.

7. If you have reason to believe that an individual other than one employed by your company may be able to provide additional details or documentation in response to any question, state that person's name, last known address, phone number and the reasons for your belief.

8. If a document is requested but not available, state the reason for its unavailability. To the best of your ability, identify the document by author, date, subject matter, number of pages, and all recipients of the document with their addresses.

9. If anything is omitted from a document produced in response to this Request for Information, state the reason for, and the subject matter of, the omission.

10. If you cannot provide a precise answer to a question, please approximate but, in any such instance, state the reason for your inability to be more specific.

11. Whenever this Request for Information requests the identification of a natural person, or other entity, the person or entity's full name and present or last known address also should be provided.

12. Confidential Information. The information requested herein must be provided even though you may contend that it includes confidential business information or trade secrets. You may assert a confidentiality claim covering part or all of the information requested, pursuant to Sections 104(e)(7)(E) and (F) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended ("CERCLA"), 42 U.S.C. Sections 9604(e)(7)(E) and (F), and 40 C.F.R. Section 2.203(b).

    If you make a claim of confidentiality for any of the information you submit to EPA, you must prove that claim. For each document or response you claim to be confidential, you must separately address the following points:

    a. the portions of the information which are alleged to be entitled to confidential treatment;

    b. the period of time for which confidential treatment is desired (e.g., until a certain date, until the occurrence of a specific event, or permanently);

    c. measures taken by you to guard against the undesired disclosure of the information to others;

    d. the extent to which the information has been disclosed to others, and the precautions taken in connection therewith;

    e. pertinent confidentiality determinations, if any, by EPA or other federal agencies, and a copy of any such determinations or reference to them, if available; and

    f. whether you assert that disclosure of the information would likely result in substantial harmful effects on your business' competitive position, and if so, what those harmful effects would be, why they should be viewed as substantial, and an explanation of the causal relationship between disclosure and such harmful effects.

To make a confidentiality claim, please stamp, or type, "confidential" on all confidential responses and any related confidential documents. Confidential portions of otherwise non-confidential documents should be clearly identified. Please submit your response so that all non-confidential information, including any redacted versions of documents, are in one envelope and all materials for which you desire confidential treatment are in another envelope.

All confidentiality claims are subject to EPA verification. It is important that you satisfactorily show that you have taken reasonable measures to protect the confidentiality of the information and that you intend to continue to do so, and that it is not and has not been obtainable by legitimate means without your consent. Information covered by such claim will be disclosed by EPA only to the extent permitted by CERCLA Section 104(e) and 40 C.F.R. Part 2, Subpart B. If no such claim accompanies the information when it is received by EPA, then it may be made available to the public by EPA without further notice to you.

B. Definitions

1. As used herein, the term "Site" or "BCF facility" shall refer to the BCF Oil Refining, Inc. facility, located at 360-362 Maspeth Avenue, Brooklyn, NY.

2. As used herein, the term "hazardous substance" shall have the meaning set forth in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14). The substances which have been designated as hazardous substances pursuant to Section 102(a) of CERCLA (which, in turn, comprise a portion of the substances that fall within the definition of "hazardous substance" under Section 101(14) of CERCLA) are set forth at 40 CFR Part 302.

3. All terms not defined herein shall have their ordinary meanings, unless such terms are defined in CERCLA or the Resource Conservation and Recovery Act, 42 U.S.C. § 6901, et seq., in which case the statutory definitions apply.

REQUEST FOR INFORMATION

1. a. State the correct legal name and mailing address of BCF Oil Refining, Inc. (hereinafter, "BCF").

b. Please provide a copy of all articles of incorporation and by-laws of BCF which have ever been in effect.

c. Identify the state and date of incorporation of BCF and the company's agents for service of process in the state of incorporation and in New York State.

d. List the names and current addresses of all individuals who are currently or have ever been officers, directors, and/or shareholders of BCF, the specific position(s) held and duties performed by each person, the years in which each person held each such position, and the annual compensation, benefits, and/or distributions received by each person for each year of their association with BCF.

e. If BCF is a subsidiary or affiliate of another corporation or other entity, or has any subsidiaries, identify each of those other entities and their officers and directors. Identify the state of incorporation and agents for service of process in the state of incorporation and in New York State for each entity identified in your response to this question.

f. Provide a copy of the minutes (complete with all exhibits, schedules and attachments) of all meetings of the directors or shareholders of BCF since the formation of the corporation, and all other records evidencing each such meeting.

g. Did BCF ever maintain any facilities at any location other than the Site? If so, identify those locations, the nature of the business conducted there, and the period in which business was conducted there.

h. What is the nature of the business that BCF currently conducts, and at what locations does it conduct such business?

2. a. It is EPA's understanding that Calleia Bros., Inc. merged into BCF on April 3, 1986, and that BCF is the legal successor in interest of Calleia Bros., Inc. Please provide a copy of the purchase/sale and merger agreements that effected this merger.

b. If it is not correct that Calleia Bros., Inc. merged into BCF on April 3, 1986 or that BCF is the legal successor in interest of Calleia Bros., Inc., please explain what portion of that statement is incorrect, and provide a copy of the documents that support your assertion.

3. a. Identify by lot and block number all parcels at which BCF has conducted business at or in the vicinity of 360-362 Maspeth Avenue, Brooklyn, NY. (These parcels are hereinafter collectively referred to as "the Property.")

b. Identify the current owner(s) of the Property. If any portion of the Property is not owned by BCF, identify BCF's current interest in that portion of the Property (e.g., lease or other interest), and state the dates during which that interest has been held.

c. Has any entity other than BCF or Calleia Bros., Inc. held an ownership interest in any portion of the Property at any time since February 6, 1979? If so, identify each such entity, the specific portion of the Property that it owned, and the specific time period of its ownership of said portion of the Property. In addition, describe the relationship, if any, between each such entity and BCF or its principals.

d. Provide a copy of all deeds to the Property which have been signed on or after February 6, 1979.

e. Provide a copy of the most recent real estate appraisal of the Property. In addition, if such appraisal considered the market value of the Property to be negatively affected by the presence of environmental contamination, please also provide a copy of the most recent appraisal which did not reflect such contamination.

4. Please fill out completely and sign the enclosed "Financial Statement of Corporate Debtor" as to BCF, and provide the completed form to EPA.

5. a. Provide copies of the audited financial statements (including auditor's opinion, balance sheet, income statement, statement of cash flows, notes, and detailed schedules) for BCF from 1986 to present. If audited statements were not prepared, unaudited statements are acceptable. In addition, if financial statements for fiscal year 1999 are not yet available, please provide draft financial statements immediately (if available) and the final financial statements as soon as they are completed.

b. To the extent not identified in BCF's financial statements, please identify and fully describe for each year since 1986 any sales, purchases, loans, financial guarantees, non-cash distributions, cash distributions, and/or other financial transactions between BCF and: a) its officers, b) directors, c) shareholders, d) companies or other entities in which any of BCF's officers, directors, and/or shareholders held more than a 5 percent equity position at the time of the transaction.

6. Provide signed and dated copies of BCF's federal corporate income tax returns, complete with all schedules and attachments, for the most recent five years. If BCF's federal corporate income tax return for fiscal year 1999 has not yet been completed, please provide a signed and dated copy to EPA as soon as it is complete.

7. Identify documents, other than the company's financial statements or federal corporate income tax returns, that reflect the financial condition of BCF for the most recent five years[1], including but not limited to: operating statements, income statements, balance sheets, statements of cash flow (statements of changes in financial position), retained earnings statements, loan applications, financing agreements, security agreements, reports to shareholders, data compiled for or submitted to lenders, financial institutions and/or financial services (e.g., Dun & Bradstreet, Compustat), and depreciation schedules. Please attach a copy of each of the above-referenced documents.

8. Identify and explain any loans, mortgages, and financing or borrowing agreements entered into by or on behalf of BCF since 1986. For each such loan or agreement, please state the following: a) the terms of the loan, including principal, interest, term, schedule of repayment, and late payment provisions; b) the purpose for the loan or agreement; c) the amount currently outstanding, if any; and d) the information submitted to the lender to demonstrate the financial condition of BCF.

9. Identify and explain any and all instances where BCF has acted as guarantor or surety on a loan or mortgage to another corporation, partnership, LLC, LLP, individual, or other entity since 1986. Attach any documents relating to such instances. Please state: a) terms of the loan, mortgage or agreement; b) name and address of the borrower or mortgagor; c) purpose of the loan, mortgage, or agreement; d) address or location of guaranteed property; and e) amount currently outstanding, if any.

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[1] If financial statements regarding BCF are not available for any of the years 1986 to 1994, then please provide the information and documents requested by question 7, as to not only the most recent five years but also as to each of the years between 1986 and 1994 for which financial statements are not available.

10. a. Provide signed and dated copies of Salvatore Cortese's federal income tax returns (i.e., Form 1040), complete with all schedules and attachments, for the most recent three years. If Mr. Cortese's federal income tax return for 1999 is not yet complete, please provide a signed and dated copy of it to EPA as soon as it is complete.

b. Please fill out completely and sign the enclosed "Individual Ability to Pay Claim - Financial Data Request Form" as to Salvatore Cortese, and provide the completed form to EPA.

11. a. Provide a copy of all liability, property, and casualty insurance policies which BCF or its officers or directors have had at any time since January 1, 1986. If you also have access to any of the insurance policies held by Calleia Bros., Inc., then please provide a copy of those policies, as well. Identify all insured parties under each policy.

b. If you have not retained a copy of any such policies but have information concerning them, please provide to the extent possible the following information for each such policy: a) the name and address of the insurer, b) policy number/account, c) effective dates of the policy, d) per occurrence limits for the policy, and e) any other descriptive information regarding the policy.

c. Is BCF or its officers or directors claiming a defense under any of the insurance policies identified in response to 11.a or 11.b above relating to the contamination problem at the BCF facility? If so, please state: i) the name of the insurance company providing the defense; ii) the type of insurance policy under which the defense is being provided; iii) whether any reservation of rights letter was sent relating to a defense being provided to BCF; iv) status of the case; and v) any other descriptive information regarding each claim.

12. Has any party ever agreed to or been required to indemnify BCF, Calleia Bros., Inc., Salvatore Cortese, Cary Fields or Jerome Belson against any liability which they may be found to have, under any federal or state environmental laws, relating to environmental contamination at the Site? If so, provide a copy of all such indemnification agreements/arrangements. To the extent that any such indemnification agreement or arrangement has existed but you cannot locate a copy of it, provide detailed information regarding the agreement/arrangement.

13. a. Provide the names, titles and addresses of the individuals and firms who who have been responsible for conducting any environmental sampling (e.g., soil, groundwater, surface water, sediments) at or adjacent to the BCF facility.

b. List the analyses conducted with respect to each of the samples referred to in question 10.a.

c. Provide a description of the analytical method used for each of the above analyses.

d. Provide a copy of the quality assurance/quality control plan for each analysis.

e. State which of the analyses were conducted by an outside private laboratory, and identify the laboratory in question.

f. Provide a copy of the analytical results of each of the samples referred to above.

14. Identify all leaks, spills, or releases or threats of releases of any kind of any hazardous substances into the environment that have occurred or may have occurred at or from the Property. Your answer should include:

a. when each release occurred;

b. how each release occurred;

c. what individuals and companies caused or contributed to the release;

d. what hazardous substances were released, and in what form (e.g., gas, liquid, solid, or sludge);

e. the amount of each hazardous substance released;

f. where each release occurred (indicate on a map or plot plan of the Property);

g. the surface on or into which the material was released;

h. whether the release was fully contained and, if not, where the uncontained portion is believed to have gone;

i. any and all activities undertaken in response to each release or threatened release;

j. any and all investigations of the circumstances, nature, extent or location of each release or threatened release, including the results of any soil, water (ground or surface), or sediment testing that was undertaken; and

k. all persons with information relating to subparts a. through j. of this question.

15. Please state the name, title and address of each individual who assisted or was consulted in the preparation of your response to this Request for Information. In addition, state whether this person has personal knowledge of the answers provided.

CERTIFICATION OF ANSWERS TO REQUEST FOR INFORMATION

State of ________________

County of _______________:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document (response to EPA Request for Information) and all documents submitted herewith, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete, and that all documents submitted herewith are complete and authentic unless otherwise indicated. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I am also aware that I am under a continuing obligation to supplement my response to EPA's Request for Information if any additional information relevant to the matters addressed in EPA's Request for Information or my response thereto should become known or available to me.

____
NAME (print or type)

____
TITLE (print or type)

____
SIGNATURE

Sworn to before me this

day of , 2000

____
Notary Public

LAW OFFICES

STILLMAN & FRIEDMAN, P.C.

425 PARK AVENUE

NEW YORK, N Y 10022

CHARLES A. STILLMAN
JULIAN W. FRIEDMAN
PAUL SHECHTMAN
PETER A. CHAVKIN
SCOTT M. HIMES
MARJORIE J. PEERCE
JOHN B. HARRIS
JAMES A. MITCHELL
MICHAEL J. GRUDBERG

PETER E. DOLOTTA
SARA BETH SAVAGE
LAUREN GOLDBERG
NATHANIEL Z. MARMUR
SEAN T. HARAN
JODY L. KING
SAMANTHA J. LEVENTHAL

TELEPHONE
(212) 223-0200
TELECOPIER
(212) 223-1942

BY TELECOPIER &
FEDERAL EXPRESS

May 19, 2000

Paul F. Simon, Esq.
New York/Caribbean Superfund Branch
Office of Regional Counsel
United States Environmental Protection Agency
Region II
290 Broadway
New York, NY 10007-1866

Re: BCF Oil Refining, Inc Site,
360 Maspeth Avenue, Brooklyn, NY

Dear Paul:

I am writing pursuant to your letter of March 29 in order to inform you that one week from today, on May 26, 2000, my client, BCF Oil Refining, Inc ("BCF"), will no longer be able to provide around-the-clock security at the above-reference site.

As you know, BCF has conducted no business operations, and received no income, since August 1994. At that time, BCF discovered that its premises had been contaminated by the unwitting receipt of material containing PCBs in excess of 50 parts per million. Upon learning of the situation, BCF immediately made voluntary disclosure to every relevant government agency -- the Environmental Protection Agency, the New York State Department of Environmental Conservation, the New York City Department of Environmental Protection, the United States Coast Guard, and the New York City Fire Department. That disclosure led to a meeting attended by representatives of BCF and most of the above agencies. At that meeting, BCF explained the situation and informed regulators that it would abide by any instructions they gave regarding the remediation of the premises.

LAW OFFICES
STILLMAN & FRIEDMAN, P.C.

No remedial action was taken by any governmental agency in the wake of the August 1994 meeting. Instead, it appears that the regulators decided to await the outcome of the action which BCF commenced against Con Edison. As you know, that lawsuit resulted in a jury verdict against BCF in December 1997.

Since that time, BCF has attempted to reach agreements with the regulatory agencies regarding the remediation of the premises. First, BC F filed a voluntary clean-up application. That application was denied in July 1998. On August 7, 1998, BCF met with DEC personnel, and on August 25, BCF submitted its preliminary work plan to the DEC. Based on the lack of any concerns expressed by the DEC with regard to that document, BCF submitted formal work plans and facility refurbishment plans to the DEC on February 20, 1999.

It was not until December 1999 that the DEC made any meaningful response to BCF's submissions. From early 1998 until that date, BCF made numerous attempts to get a DEC response, but phone calls were not returned and letters were not answered. Morever, when the DEC finally began to pay attention to this matter in December 1999, it refused to make any commitment to BCF as to what remediation action would be required. Thus, when BCF requested that DEC consider a work plan containing objective criteria for soil and groundwater clean-up, the DEC refused.

BCF's inability to reach agreement with the DEC apparently led the DEC to refer this matter to the EPA. You and I had our first conversation on March 26, 2000, at which time I asked you for a meeting. I subsequently had a number of conversations with the EPA Emergency Response Division as well. During all of these conversations, I informed the EPA representatives that they could have access to BCF's facility at any time they wished.

The meeting which I requested was ultimately held on April 12 in your office. Since that time, BCF has allowed EPA personnel full access to its premises and full access to its business records. Moreover, BCF has authorized EPA to take any samples from the premises that EPA wished.

As I told you in our phone conversation on Thursday, May 18, it is my strong view that the shareholders of BCF do not have personal liability for the costs of remediation of BCF's premises. I believe that this result is supported by the decision of the United States Supreme Court in United States v. Bestfoods, 524 U.S. 51 (1998), and by the case law both before and subsequent to Bestfoods, as well as by the law applicable to the concept of "piercing the corporate veil". Despite our legal position, however, BCF's principals are willing to borrow a large sum of money to finance the clean-up. All they ask in return is an element of finality from all of the regulators.

In our conversation Thursday, you informed me of your view that EPA would not be able to influence the DEC's attitude toward this matter. Therefore, even if we could reach agreement with the EPA regarding the scope of the work to be done, and objective criteria according to which

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it should be evaluated, my clients -- despite spending significant monies -- would still be faced with the possibility that the DEC would require more, and commence litigation anyway. In view of that fact, it appears to me that a consensual resolution of this matter -- with BCF's shareholders voluntarily borrowing money in order to finance the cost of remediation -- is impossible.

My clients simply cannot afford any longer to pay the thousands of dollars a month which they have been paying for more than five years to secure the premises It is very hard for me to understand why regulators are unable or unwilling to accept significant financial contributions from individuals as to whom I believe there is no personal liability, but this is a situation over which we have no control.

Please let me know to whom you want me to deliver the keys to the premises so that the EPA can gain access next Friday.

Very truly yours,

Julian W. Friedman

JWF:cn

cc: Richard Salkie, Chief
Removal Action Branch
Emergency and Remedial Response Division
U.S. Environmental Protection Agency
Region II
2890 Woodbridge Avenue
Edison, NJ 08837-3679

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
290 BROADWAY
NEW YORK, NEW YORK 10007-1866

MAY 23 2000

VIA CERTIFIED MAIL--
RETURN RECEIPT REQUESTED

[See Attached List of Addressees]

Re: BCF Oil Refining, Inc. Site,
360-362 Maspeth Avenue, Brooklyn, NY

Dear Sir/Madam:

The U.S. Environmental Protection Agency ("EPA") is charged with responding to the release or threatened release of hazardous substances, pollutants and contaminants into the environment and with enforcement responsibilities under the Comprehensive Environmental Response, Compensation, and Liability Act, as amended ("CERCLA"), 42 U.S.C. Sections 9601-9675 (also known as the "Superfund" law).

EPA has documented the release or threatened release of hazardous substances into the environment at the BCF Oil Refining, Inc. Site, located at 360-362 Maspeth Avenue, Brooklyn, NY (hereinafter, the "Site"). The Site was used as a waste oil reprocessing facility until 1994. Tanks and other containers and media at the Site now contain various hazardous substances, including but not limited to polychlorinated biphenyls ("PCBs"), 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, dichlorodifluoromethane, tetrachloroethene, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, trichloroethene, trichlorofluoromethane, copper, lead and zinc. In response to the release or threat of release of hazardous substances at the Site, EPA has spent public funds and anticipates spending additional public funds pursuant to CERCLA.

Notice of Potential Liability

Under Section 107(a) of CERCLA, 42 U.S.C. Section 9607(a), responsible parties may be held liable for all costs expended by the federal government in taking response actions at and around sites where hazardous substances have been released or are threatened to be released, including investigative, planning, removal, remedial, and enforcement actions. Responsible parties also may be subject to orders requiring them to take response actions themselves. Responsible parties under CERCLA include, among others, the current and past owners or operators of a facility from which there has been a release or threatened release of a hazardous substance, persons who transported hazardous substances to the facility, and those that generated the hazardous substances that were sent to the facility.

By this letter, we notify you that we have reason to believe that your company was a generator and/or transporter of used oil, waste oil, wastewater and/or other material which was brought to the Site and which may have contained hazardous substances, and thus might be a liable party under Section 107(a)(3) and/or (a)(4) of CERCLA, 42 U.S.C. Sections 9607(a)(3) and (a)(4). Accordingly, EPA considers your company to be a potentially responsible party ("PRP") under CERCLA with regard to the Site. For your information, EPA has already sent a similar notification of potential liability to BCF Oil Refining, Inc. ("BCF") and Mr. Salvatore Cortese, the president of BCF.

EPA believes that a cleanup or "removal action" (as defined in CERCLA) is necessary at the Site. We currently expect that this removal action will involve, among other things, sampling and analysis, and the removal and proper disposal of all of the contents of the above-ground and underground storage tanks, roll-off containers, tank trucks and drums at the Site. EPA has begun discussions with BCF regarding a possible administrative settlement under CERCLA whereby it would commit to perform or pay for a cleanup action at the Site. We do not yet know whether those discussions will reach fruition. (Your response to this letter is required regardless of whether EPA's negotiations with BCF prove to be successful.)

Because your company is a PRP at the Site, we are giving you an opportunity to agree to participate in the performance or funding of the removal action. If your company does not agree to participate, EPA might issue a unilateral administrative order to your company under Section 106(a) of CERCLA, 42 U.S.C. § 9606(a), or other law, requiring it to perform or participate in the performance of the cleanup, and/or EPA might itself perform the cleanup (the costs of which the PRPs may be liable for under Section 107(a) of CERCLA). In addition, those that do not enter into a settlement with EPA would face a potential threat of contribution litigation by those private parties that do pay cleanup costs at the Site.

Please notify EPA, in writing, **within fourteen (14) calendar days of your receipt of this letter** as to whether your company is prepared to participate in the performance or funding of the removal action at the Site, and if so, the extent and manner in which it is prepared to participate. Your response should be sent to:

Paul F. Simon, Chief
New York/Caribbean Superfund Branch
Office of Regional Counsel
U.S. Environmental Protection Agency, Region II
290 Broadway, 17th Floor
New York, NY 10007-1866
(Fax: 212-637-3104)

and

Thomas Budroe
Removal Action Branch
Emergency and Remedial Response Division
U.S. Environmental Protection Agency
2890 Woodbridge Avenue
Edison, NJ 08837-3679
(Fax: 732-906-6182)

If you do not respond in the manner and within the time period specified above, we will assume that you decline to participate in this response action.

In addition, you may wish to contact the attorney representing BCF in this matter, Julian W. Friedman of Stillman & Friedman, P.C., 425 Park Avenue, New York, NY 10022, (212) 223-0200.

This notice is not being provided pursuant to the special notice procedures outlined in Section 122(e) of CERCLA, 42 U.S.C. Section 9622(e), because EPA does not believe that the use of the Section 122(e) special notice procedures would facilitate an agreement with PRPs for taking response action or would expedite the performance of the removal action. Please also note that this letter does not preclude EPA from, at any time, proceeding with a Federally-funded removal action at the Site.

Request for Information

This letter also seeks your cooperation in providing certain information and documents to EPA. A complete and truthful response to the attached Request for Information should be provided to EPA within 21 days of your receipt of this letter.

Under Section 104(e) of CERCLA, 42 U.S.C. Section 9604(e), EPA has broad information-gathering authority which allows EPA to require persons to provide information or documents relating to the materials generated, treated, stored or disposed of at or transported to a facility, the nature or extent of a release or threatened release of a hazardous substance, pollutant or contaminant at or from a facility, and the ability of a person to pay for or perform a cleanup.

While EPA seeks your cooperation in this investigation, your compliance with the attached Request for Information is required by law. When you have prepared your response to the Request for Information, please sign and have notarized the enclosed "Certification of Answers to Request for Information," and return that Certification to EPA along with your response. Please note that false, fictitious or fraudulent statements or representations may subject you to civil or criminal penalties under federal law. In addition, Section 104 of CERCLA, 42 U.S.C. § 9604, authorizes EPA to pursue penalties for failure to comply with requests for information.

Some of the information EPA is requesting may be considered by you to be confidential business information. Please be aware that you may not withhold the information on that basis. If you wish EPA to treat all or part of the information confidentially, you must advise EPA of that fact by following the procedures described in the Instructions included in the attached information request, including the requirement of supporting your claim of confidentiality.

Please note that if after submitting your response you obtain additional or different information concerning the matters addressed by our information request, it is necessary that you promptly notify EPA.

This Request for Information is not subject to the approval requirements of the Paperwork Reduction Act of 1980, 44 U.S.C. Sections 3501-3520.

Your response to this Request for Information should be mailed to Thomas Budroe and Paul F. Simon of EPA, at the addresses set forth above.

If you have any questions pertaining to the matters referred to in this letter, or would like to discuss any of the above issues, you may contact Thomas Budroe of EPA at (732) 906-6191 or you or your legal counsel may call Paul Simon of EPA's Office of Regional Counsel at (212) 637-3152.

We appreciate your prompt attention to this matter.

Sincerely yours,

Richard L. Caspe, P.E., Director
Emergency and Remedial Response Division

Enclosure

INSTRUCTIONS FOR RESPONDING TO REQUEST FOR INFORMATION

A. Directions

1. A complete and separate response should be given for each question.

2. Identify each answer with the number of the question to which it is addressed.

3. For each document produced in response to this Request for Information, indicate on the document, or in some other reasonable manner, the question to which it applies.

4. In preparing your response to each question, consult with all present and former employees and agents of your company whom you have reason to believe may be familiar with the matter to which the question pertains.

5. In answering each question, identify each individual and any other source of information (including documents) that was consulted in the preparation of the response to the question.

6. If you are unable to give a detailed and complete answer, or to provide any of the information or documents requested, indicate the reason for your inability to do so.

7. If you have reason to believe that an individual other than one employed by your company may be able to provide additional details or documentation in response to any question, state that person's name, last known address, phone number and the reasons for your belief.

8. If a document is requested but not available, state the reason for its unavailability. To the best of your ability, identify the document by author, date, subject matter, number of pages, and all recipients of the document with their addresses.

9. If anything is omitted from a document produced in response to this Request for Information, state the reason for, and the subject matter of, the omission.

10. If you cannot provide a precise answer to a question, please approximate but, in any such instance, state the reason for your inability to be more specific.

11. Whenever this Request for Information requests the identification of a natural person, or other entity, the person or entity's full name and present or last known address also should be provided.

12. Confidential Information. The information requested herein must be provided even though you may contend that it includes confidential business information or trade secrets. You may assert a confidentiality claim covering part or all of the information requested, pursuant to Sections 104(e)(7)(E) and (F) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended ("CERCLA"), 42 U.S.C. Sections 9604(e)(7)(E) and (F), and 40 C.F.R. Section 2.203(b).

    If you make a claim of confidentiality for any of the information you submit to EPA, you must prove that claim. For each document or response you claim to be confidential, you must separately address the following points:

    a. the portions of the information which are alleged to be entitled to confidential treatment;

    b. the period of time for which confidential treatment is desired (e.g., until a certain date, until the occurrence of a specific event, or permanently);

    c. measures taken by you to guard against the undesired disclosure of the information to others;

    d. the extent to which the information has been disclosed to others, and the precautions taken in connection therewith;

    e. pertinent confidentiality determinations, if any, by EPA or other federal agencies, and a copy of any such determinations or reference to them, if available; and

    f. whether you assert that disclosure of the information would likely result in substantial harmful effects on your business' competitive position, and if so, what those harmful effects would be, why they should be viewed as substantial, and an explanation of the causal relationship between disclosure and such harmful effects.

To make a confidentiality claim, please stamp, or type, "confidential" on all confidential responses and any related confidential documents. Confidential portions of otherwise non-confidential documents should be clearly identified. Please submit your response so that all non-confidential information, including any redacted versions of documents, are in one envelope and all materials for which you desire confidential treatment are in another envelope.

All confidentiality claims are subject to EPA verification. It is important that you satisfactorily show that you have taken reasonable measures to protect the confidentiality of the information and that you intend to continue to do so, and that it is not and has not been obtainable by legitimate means without your consent. Information covered by such claim will be disclosed by EPA only to the extent permitted by CERCLA Section 104(e) and 40 C.F.R. Part 2, Subpart B. If no such claim accompanies the information when it is received by EPA, then it may be made available to the public by EPA without further notice to you.

B. Definitions

1. As used herein, the term "Site" shall refer to the BCF Oil Refining, Inc. facility (formerly known as Calleia Bros., Inc.), located at 360-362 Maspeth Avenue, Brooklyn, NY.

2. As used herein, the terms "the Company" and "your Company" refer not only to your company as it is currently named and constituted, but also to all predecessors in interest of your company and all subsidiaries, divisions, affiliates and branches of your company or of its predecessors.

3. All terms not defined herein shall have their ordinary meanings, unless such terms are defined in CERCLA or the Resource Conservation and Recovery Act, 42 U.S.C. § 6901, et seq., in which case the statutory definitions apply.

REQUEST FOR INFORMATION

1. a. State the correct legal name and current mailing address of your Company. In addition, state all names under which your Company has operated since 1978.

b. Identify the chief executive officer and president of your Company.

c. Is your Company a corporation? If so, identify the State and date of incorporation of your Company, and identify its agent for service of process in the State of incorporation and in New York State.

d. Is your Company a partnership? If so, state whether it is a general or limited partnership, identify the State in which the partnership was organized, and state the names and addresses of the general partners of the partnership.

e. Is your Company a subsidiary or affiliate of another corporation or other entity? If so, identify each such entity and answer questions 1.a.-d. as to each such entity.

f. What is the nature of the business(es) that your Company currently conducts and which it conducted at the time of its transactions with BCF Oil Refining, Inc. ("BCF") or Calleia Bros., Inc., 360-362 Maspeth Avenue, Brooklyn, NY?

2. a. Describe in detail all the different types of used oil, waste oil, wastewater and other material which were ever transported by your Company to the Site. (See the definition of "Site" in the "Definitions" section above.)

b. State the total volume of waste oil, used oil, wastewater and other material transported by your Company to the Site. If you cannot provide a precise figure, please estimate, and explain how you formulated this estimate. In addition, if you can provide a breakdown of this total volume figure based on the different types of oil and other material referred to in your response to question 2.a. above, then please do so.

c. Describe the various types of industrial, commercial or other facilities or establishments from which your Company obtained the waste oil, used oil, wastewater and other material that it transported to the Site.

d. Provide as detailed information as possible regarding the chemical contents and characteristics of the waste oil, used oil, wastewater and other material transported by your Company to the Site.

e. State the time period in which your Company transported used oil, waste oil, wastewater and other material to the Site.

f. As to all of the waste oil, used oil, wastewater and other material brought by your Company to the Site, did your Company select the Site as the place to which the material would be brought? If any entity other than your Company selected the Site as the destination for any of the material, please identify each such other entity and explain how often that was the case.

g. Provide copies of all documentation of your shipments to the Site or transactions with BCF or Calleia Bros., Inc., including, but not limited to, invoices, receipts, manifests, shipping documents, waste analyses and characterizations, and contracts or agreements with BCF or Calleia Bros., Inc. or their representatives.

3. In addition to the used oil, waste oil, wastewater and other material which was <u>transported</u> by your Company to the Site, EPA needs to obtain information regarding any such material which was <u>generated</u> by your Company (<u>i.e.</u>, which your Company arranged for the treatment, disposal, recycling, or sale of) and transported by some <u>other</u> entity to the Site. As to such shipments of used oil, waste oil, wastewater and other material, please answer questions a. through h. below.

a. Describe in detail all the different types of such used oil, waste oil, wastewater and other material which came from your Company and were transported to the Site.

b. State the total volume of such waste oil, used oil, wastewater and other material which came from your Company and was transported to the Site. If you cannot provide a precise figure, please estimate, and explain how you formulated this estimate. In addition, if you can provide a volumetric breakdown based on the different types of oil and other material referred to in your response to question 3.a. above, then please do so.

c. State the name and address of your Company's facility(ies) from which the waste oil, used oil, wastewater and other material came.

d. Provide as detailed information as possible regarding the chemical contents and characteristics of all of your Company's waste oil, used oil, wastewater and other material that was transported to the Site.

e. State the time period in which your Company's used oil, waste oil, wastewater and other material was sent to the Site.

f. State the present or last known addresses of all parties who transported your Company's used oil, waste oil, wastewater or other material to the Site.

g. Identify all parties who selected the Site as the destination for your Company's used oil, waste oil, wastewater and other material.

h. Provide copies of all documents that relate to your answers to questions 3.a.- g. above, including, but not limited to, invoices, receipts, manifests, shipping documents, waste analyses and characterizations, and contracts or agreements with transporters of used oil, waste oil, wastewater and other material, or with BCF or Calleia Bros., Inc. or their representatives.

4. State the names, telephone numbers and present or last known addresses of all individuals who you have reason to believe may have knowledge, information or documents relating to any used oil, waste oil, wastewater and other material sent to the Site.

5. This question 5 relates only to those years between 1978 and 1994 when your Company may have transported used oil, waste oil, wastewater or other material to the Site or may have generated used oil, waste oil, wastewater or other material that was sent to the Site. During that period:

a. How did your Company clean the inside of the tank portion of its tank trailers, vacuum trailers, etc.? Where was this accomplished? What was the final disposition of the rinsate from the cleanout of the above?

b. Did your Company conduct tank cleanouts?

c. Did your Company conduct spill cleanups?

d. Did your Company ever transport oils, waste water or other material containing PCBs? If so, identify the sources of this material.

e. Did your Company ever transport oils, waste water or other material containing chlorinated solvents? If so, identify the sources of this material.

6. a. Provide copies of all liability insurance policies and indemnification agreements held or entered into by your Company which arguably could indemnify it against any liability which it may be found to have under CERCLA with regard to the Site. In response to this request, please provide not only those insurance

policies and agreements which are currently in effect, but also those which were in effect during the period(s) when any materials may have been transported by your Company, or from your Company's facilities, to the Site.

b. If you have not retained a copy of any such insurance policies but have information concerning them, please provide to the extent possible the following information for each such policy: a) the name and address of the insurer, b) policy number/account, c) effective dates of the policy, d) per-occurrence limits for the policy, and e) any other descriptive information regarding the policy.

7. a. Provide copies of the financial statements prepared by, for, or on behalf of your Company during the past four years. If audited financial statements were prepared, then please provide a copy of those statements. If audited financial statements were not prepared, unaudited statements are acceptable. In addition, if financial statements for fiscal year 1999 are not yet available, please provide draft financial statements for 1999 immediately (if available) and the final financial statements for 1999 as soon as they are completed.

b. If your Company does not have financial statements for the past four years, then provide a copy of other documentation that reflects the financial condition of your Company during those years, such as operating statements, income statements, balance sheets, statements of cash flow (statements of changes in financial position), retained earnings statements, loan applications, and financing agreements.

8. Provide signed and dated copies of your Company's federal income tax returns, complete with all schedules and attachments, for the most recent four years. If your Company's federal income tax return for fiscal year 1999 has not yet been completed, provide a signed and dated copy to EPA as soon as it is complete.

9. Has your Company been the subject of a bankruptcy filing at any time since 1978? If so, describe the nature of the bankruptcy case, the approximate date it was initiated, and the current status of the matter.

10. Please state the name, title and address of each individual who assisted or was consulted in the preparation of your response to this Request for Information. In addition, state whether this person has personal knowledge of the answers provided.

CERTIFICATION OF ANSWERS TO REQUEST FOR INFORMATION

State of ________________

County of _______________:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document (response to EPA Request for Information) and all documents submitted herewith, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete, and that all documents submitted herewith are complete and authentic unless otherwise indicated. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I am also aware that I am under a continuing obligation to supplement my response to EPA's Request for Information if any additional information relevant to the matters addressed in EPA's Request for Information or my response thereto should become known or available to me.

____
NAME (print or type)

____
TITLE (print or type)

____
SIGNATURE

Sworn to before me this

day of , 2000

____
Notary Public

<u>List of Addressees of Notice & Information-Request Letter regarding the BCF Oil Refining, Inc. Site, 360-362 Maspeth Avenue, Brooklyn, NY:</u>

President
AAA Oil Pollution Specialists
36-28 14th St.
Long Island City, NY 11101

President
AAR Bee Waste Oil Service
1011 147th St.
Whitestone, NY 11357

President
A.B. Oil Service (a/k/a A.B. Environmental Inc.)
15-99 Ocean Ave
Bohemia, NY 11716

President
A.B.C. Tank Repair & Lining, Inc.
280 E 88th St.
Brooklyn, NY 11236

President
Ace Waste Oil
71-34 58th Ave
Maspeth, NY 11370

President
AKBA Waste Oil
4 Di Tomas Court
P.O. Box 729
Copiague, NY 11726

President
A.L. Eastmond & Sons, Inc.
1175 Leggett Ave.
Bronx, NY 10474

President
Allied Waste Oil Inc.
847 Shepard Ave.
Brooklyn, NY 11208

President
American Industrial Services
(f/k/a American Industrial Marine)
1819 Gilford Ave
New Hyde Park, NY 11040

President
Approved Recovery Systems
270 Conover St.
Brooklyn, NY 11231

President
Auchter Industrial Vac.
4801 Southwood Ave
Linden, NJ 07036

President
Best Tank Cleaning Services
146 West St
Brooklyn, NY 11232

President
Chemical Management Inc.
4400 River Road
Tonawanda, NY 14150

President
City Oil Services
5315 Van Dam St.
Long Island City, NY 11101

President
Clean Venture Inc.
201 South 1st St
Elizabeth, NJ 07206

Con Edison
Director, Law Department
4 Irving Place
New York, NY 10003

cc: Charles McTiernan
Associate General Counsel
Law Department
Con Edison
4 Irving Place
New York, NY 10003

President
County Waste & Recycling Services
1 Environmental Lane
Clifton Park, NY 12065

President
DeJana Industries, Inc.
100 South Bayles Ave
Port Washington, NY 11050

President
Direct Environmental
66B Otis St.
West Babylon, NY 11704

President
Dunrite Waste Oil Service
10 Dare Road
Selden, NY 11784

President
Econo Oil Inc.
P.O. Box 1254
West Babylon, NY 11704

President
Elco Maintenance Co, Inc.
3530 State Route 3
Fulton, NY 13069

President
Environmental Services Corp.
133 Commack Road
North Babylon, NY 11703

President
Fenley-Nicol Environmental Inc.
445 Brook Ave.
Deer Park, NY 11729

President
Fuel Tank Maintenance Service, Inc.
P.O. Box 305
Ridgefield Park, NJ 07660

President
Gasoline Insulation Inc.
3 Hoover St.
Inwood, NY 11096

President
General Waste Oil Corp.
2800 Kenmore Ave.
Tonawanda, NY 14150

President
G&D Waste Oil, Inc.
1103 46th Road
Long Island City, NY 11101

President
Island Tank Cleaning
35 Connecticut St
Staten Island, NY 10307

President
J.B. Waste Oil Corporation
1818 41st Street
Long Island City, NY 11105

President
Luzon Oil Corp.
1 Industrial Park
Woodridge, NY 12789

President
Miller Environmental Group, Inc.
460 Edwards Ave.
Calverton, NY 11933

President
Milro Associates, Inc. (a/k/a Milro Environmental Inc.)
1345 Jerusalem Ave
N. Merrick, NY 11566

President
M.P.C.
277 E 3rd St.
Mt. Vernon, NY 10553

President
Nassau Tank Cleaning
236 Butler St
Brooklyn, NY 11217

President
Noble Oil Company
Rt. 206 & Cramer Road
Vincentown, NJ 08088

President
Petroleum Cleaners, Inc. (a/k/a P.T.C.)
236 Butler St.
Brooklyn, NY 11217

President
RGM Liquid Waste Removal
972 Nicolls Road
Deer Park, NY 11729

President
Rice Tank Services Corp.
4600 Ole Jule Lane
Mattituck, NY 11952

President
Rice Tank Services Corp.
147 Peconic Ave.
Medford, NY 11763

President
Sarge Waste Oil Co.
8 Oakwood Terrace
Spring Valley, NY 10977

President
Slomins Inc.
125 Lauman Lane
Hicksville, NY 11801

President
Sunrise Environmental Services Inc.
381 E. 54th St.
Elmwood Park, NJ 07404

President
Tanks A Lot
280 East 88th St
Brooklyn, NY 11236

President
Tank Specialists Inc.
(f/k/a Genovese & Sheridan Inc.)
2 Park Place
Glen Cove, NY 11542

President
Timmes Industrial Maintenance Service
24 Fayette St
Brooklyn, NY 11231

President
Tyree Brothers Environmental Services, Inc.
208 Route 109
Farmingdale, NY 11735

President
U.S.A. Tank Maintenance
280 Richard St.
Brooklyn, NY 11231

President
Westchester Waste Oil Co, Inc.
219 Woodcock Mountain Road
Washingtonville, NY 10992

President
Winston Contracting Corp.
18 Ramsey Road
Commack, NY 11725

NOTICE OF PUBLIC AVAILABILITY

The United States Environmental Protection Agency (EPA) announces the availability for public review of files comprising the administrative record for the selection of the removal action at the BCF Oil Refining Site in Brooklyn, Kings County, New York. The EPA seeks to inform the public of the availability of the record file at this repository and to encourage the public to comment on documents as they are placed in the record file.

The administrative record file includes documents which form the basis for the selection of a removal action at this site. Documents now in the record file include: Action Memorandum, Notice of Public Availability, Site Identification Documents, Sampling Results, and EPA Regional Guidance. Other documents may be added as they become available. These additional documents may include, but are not limited to, other technical reports, validated sampling data, comments, and new data submitted by interested persons, and the EPA responses to significant comments.

The administrative record files are available for review during normal business hours at:

Brooklyn Public Library
396 Clinton Street
Brooklyn, NY 11231
(718) 596-6972

U.S. EPA - Region II
Removal Action Branch
2890 Woodbridge Avenue
Edison, NJ 08837
(732) 906-6191

Additional guidance documents and technical literature is available at the following location:

U.S. EPA - Region II
Removal Records Center
2890 Woodbridge Avenue
Edison, NJ 08837
(732) 906-6980

Written comments on the Administrative Record should be sent to:

Thomas P. Budroe
On-Scene Coordinator
Removal Action Branch
U.S. EPA - Region II
2890 Woodbridge Avenue
Edison, NJ 08837

EPA REGIONAL GUIDANCE DOCUMENTS

The following documents are available for public review at the EPA Region II Field Office, 2890 Woodbridge Avenue, Edison, New Jersey 08837 during regular business hours. Contact Thomas Budroe at (732) 906-6191 for more information.

* Glossary of EPA Acronyms.

* Superfund Removal Procedures--Revision #3. OSWER Directive 9360.0-03B, February 1988.

* Hazardous Waste Operations and Emergency Response.
  Notice of Proposed Rule making and Public Hearings.
  29 CFR Part 1910, Monday, August 10, 1987.

* Guidance on Implementation of Revised Statutory Limits on Removal Action.
  OSWER Directive 9260.0-12, May 25, 1988.

* Redelegation of Authority under CERCLA and SARA.
  OSWER Directive 9012.10, May 25, 1988.

* Removal Cost Management Manual.
  OSWER Directive 9360.0-02B, April, 1988.

* Field Standard Operating Procedures (FSOP).
  #4 Site Entry.
  #6 Work Zones.
  #8 Air Surveillance.
  #9 Site Safety Plan.

* Standard Operating Safety Guides -- U.S. EPA Office of Emergency and Remedial Response, July 5, 1988.

* CERCLA Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund).

* SARA: Superfund Amendments and Reauthorization Act of 1986.

* NCP: National Oil and Hazardous Substances Pollution Contingency Plan. - Publication No. 9200.2-14.

* Guidance on Implementation of the "Contribute to Efficient Remedial Performance" Provision - Publication No. 9360.0-13.

Additional Guidance Documents are listed below and are available for review at the EPA Region II Removal Records Center.

* The Role of Expedited Response Actions (EPA) Under SARA - Publication No. 9360.0-15.

* Guidance on Non-NPL Removal Actions Involving Nationally Significant or Precedent Setting Issues - Publication No. 9360.0-19.

* ARARS During Removal Actions - Publication No. 9360.3-02.

* Consideration of ARARS During Removal Actions -Publication No. 9360.3-02FS.

* Public Participation for OSCs - Community Relations and the Administrative Record - Publication No.9360.3-05.

* Superfund Removal Procedures - Removal Enforcement Guidance for On-Scene Coordinators - Publication No. 9360.3-06.

* QA/QC for Removal Actions - Publication No. 9360.4-01.

* Compendium for ERT Air Sampling Procedures - Publication No. 9360.4-05.